NANAIMO'S MUNICIPAL PARKS:

A USERS' STUDY OF NATURE TRAILS

by

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ABSTRACT

The purpose of this research is to measure the perceptions and demands placed on Nanaimo's municipal park trails. The present trail users' attitudes, use patterns, views on present and future development, and opinions on dog use and other multiple use issues were analyzed. Three different survey methods - observational studies, person to person interviews, and focus groups - were utilized to help reduce built in respondent and interviewer bias and increase the validity and reliability of the results. These three survey types were undertaken in combination with a recreation inventory of the eight nature trail sites included in the study. Basic results suggest that trail users are happy with the present level of park maintenance and the number of cyclists, but are concerned with safety issues such as vandalism and the large number of uncontrolled dogs in the parks. Recommendations for the future use and development of the nature trails were generated from the data collected and was submitted to the Nanaimo Parks Planning Department.

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INTRODUCTION

Background and Rational

The City of Nanaimo, along with most municipal parks and recreation departments, have long since recognized the benefits of outdoor recreation, urban parks, and green space to both the community and the individual. Urban parks maintain green spaces and areas for recreation, provide habitat for native plants and animals, preserve wildlife corridors, provide shade, offer aesthetic benefits, and clean the air. They also have a healing effect by relieving mental stress, increasing job satisfaction, providing an opportunity to release hostility and aggression, promoting a concern for the environment, enriching cultural life, providing facilities for the disadvantaged, and promoting active living (Kraus, 1978; Herzog, 1989; Hull, 1989; Schroeder & Gobster, 1991; Dearden & Rollins, 1993; Kaplan, 1993; Sandborn, 1996). Nanaimo's Parks, Recreation and Culture Department have attempted to take into account this diverse array of community and individual benefits by involving their citizens in the development of their master parks plan.

The *City of Nanaimo: Parks, Recreation and Culture Master Plan (1994)* provides a framework of recommendations for the development of urban parks and recreational trails within the City. The four recommendations in the Master Plan that will be directly addressed by this research are:

> 1) Initiate a comprehensive inventory of environmental features and significant areas in Nanaimo;
>
> 2) Determine the types of use to be supported by trails or routes according to the following criteria: topography and carrying capacity; need to protect sensitive environments or other special features; role of the trail/route within the trail system (e.g.. recreational, commuter); desires of the community being served;
>
> 3) Classify trails as to the uses they support and signpost them accordingly; and
>
> 4) Ensure that high standards of public safety are in place in the development and operation of public trails and routes (PERC, 1994, pp. 65).

Since the Master Planning process has taken place in 1994 there has been very little public involvement in the park planning process. Due to limited staff and funding resources the City of Nanaimo has tended to deal with parks issues on a first come first serve basis. While the Parks, Recreation and Culture Department has attempted to stay with in the guidelines of the Master Plan they have found it difficult due to the lack of a detailed parks inventory and limited information on present park users attitudes and use patterns.

Purpose and Objectives

The purpose of this research is to complete several of the recommendations developed in the *City of Nanaimo Parks, Recreation, and Culture Master Plan*. Although Nanaimo's Planning Department and Parks, Recreation and Culture Department have recognized the need for research, little has been done in terms of data collection. This research will measure the perceptions and demands placed on Nanaimo's nature trails. Nanaimo's present trail users' attitudes, use patterns, views on present and future development, and opinions on dog use and other multiple use issues will be analyzed. A recreation inventory of the eight nature trail sites included in this research--Westwood Lake Park, Pipers Lagoon Park, Diver Lake Park, Buttertubs Marsh, Colliery Dam Park, Morrell Nature Sanctuary, Cable Bay Trail and Biggs/Jack Point Park--will be completed as well. Due to the different strengths and weaknesses of various survey methods three different survey types--observational studies, interviews, and focus groups--will be completed. The outcome of this project will include a Final Report for the Parks, Recreation and Culture Department that will make recommendations for the future use and development of nature trails. The data collected from this report will be used to develop a Master Trail Plan for the City. The purpose of this research project can be summarized into four intended outcomes:

1) A recreation inventory of the eight trails included in this research to gain a greater understanding of the physical aspects of each park.
2) Gain a greater understanding of the present trail users. Discover the patron's use patterns and the reasoning behind them.

3) Develop recommendations on areas for future development and upgrading.

4) Recommend solutions to rectify some of the possible multiple use conflicts.

This research is necessary to ensure effective and efficient park planning and development. The public must be involved in every planning stage. Public involvement in local planning empowers the community and leads to more insightful and responsible planning. Failure to do so may have adverse impacts on the community, local government and the parks themselves.

Organization of the Report

The following report is divided into five sections: the Literature Review, Study Arena, Research Methods, Results and Discussion and Recommendations. The Literature Review discusses the importance and significance of public parks for leisure and recreation including some historical information. It also takes a look at the public parks planning process including community development and planning. Trail planning, development and standards are discussed in length as well.

The section dedicated to the Study Area provides background information on the City of Nanaimo and the eight urban nature trail sites included in this research.

Research Methods describes the methodology that was used for the recreation inventories, observational studies, interviews and focus groups. It discusses how and why each method was chosen and implemented.

The Results section analyzes use patterns, user profiles and attitudes and user conflicts. Some of the more detailed results are included in the appendixes.

In the final Discussion and Recommendations section there is a summary of key observations and issues The bulk of this section provides general and site specific recommendations to the City of Nanaimo's Parks, Recreation and Culture Department

LITERATURE REVIEW

The purpose of this literature review is to provide an overview of the importance and significance of public parks for recreation and leisure and to describe the municipal parks planning process. A brief discussion on community planning and parks development in Canada is required to understand the rational for creating urban parks. To be able to measure park users perceptions and demands it is important to know what factors influence them and what benefits they receive. It is equally important to understand how park and trail sites are selected, evaluated, designed and maintained. These subjects are touched on below.

SIGNIFICANCE OF PARKS FOR LEISURE

Canadian Municipal Parks History

There are four levels to Canada's park system: national, provincial, regional, and municipal. Canada has a large number of municipal parks including neighborhood playgrounds, tot lots, community playfields and parks, and various recreation facilities.

Just as each urban park is unique, each community has its own unique park system. Views on parks and recreation have changed drastically over time, although parks and open spaces are an old idea (Welch, 1991). The public open spaces of ancient Greece and Rome were a vital part of their way of life as were the hunting grounds of Henry the VIII's England (Whitaker & Browne, 1971; Welch, 1991). Urban centers often developed their parks on completely different founding philosophies and principals. In fact, parks can even be said to shape, and reflect the social values of the time (Cranz, 1982). The factors influencing leisure have also changed over time. Originally logging, hunting and other extractive resources were permitted in national, provincial and regional parks with a secondary emphasis on commercial tourism. Park managers' primary purpose was to make the most economical use of park resources. Even the earlier city parks were affected by this view point and were designed to provide structured events and to make a profit through the creation of carnivals and zoos. Bylaws prohibited games in some of the early parks in Montreal

and Toronto, and in 1763 an area called the Halifax Common (240 acres of land) was designated for use of the residents of Halifax, but was initially only used as a training ground for the militia and for pasturage (McFarland, 1982).

The physical design of these parks was even structured. George Burnap, a Landscape Architect, who wrote *Parks: Their Design, Equipment and Use* in 1916, thought that parks should be designed for beauty and utility. To meet this objective Burnap required six components to exist in each park: 1) land, which included lawns, drives and walks; 2) water, which includes fountains, pools and lakes; 3) foliage, which is either shade or ornamental; 4) floral display, which can be either garden or flower beds; 5) sculpture, which must have a recurring theme; and 6) architecture, which included embellishments, settings, and buildings (Burnap, 1916). This park design and philosophy is very different then our present day unstructured parks that emphasize natural beauty, wilderness, green spaces and wildlife corridors (Dearden & Rollins, 1993).

Cranz (1982) has classified urban parks into four historical eras by their intended usage. The first was the "pleasure ground" which is characterized by unstructured activity and naturalistic design. This era represented an attempt to regain the rural countryside in the middle of the city (Goodale & Godbey, 1988). The second era is called the "reform park" that had organized activities and was exemplified by the playground (Rosenzweig, 1984). This was followed by the "recreation facility" and then by the present era, the "open space system" which started after 1965.

England and the United States had a major influence on Canadian park development (McFarland, 1982; Ibrahim, 1991). Canadian parks had strong ties to the ornamental English gardens (Bailey, 1978). The "father of the urban parks movement" (Stormann, 1991, p. 137), was an American landscape architect, Frederick Law Olmsted. During the nineteenth century Canadian cities were relatively small and of recent origin so the proximity of the rural countryside prompted a preference for the ornamental passive parks (McFarland, 1982) over the present day interest in open space (Cranz, 1982; Rosenzweig, 1984). "Due to the growing number of urban Americans,

the need for open space as envisioned by Olmsted is neither needed nor desired today." (Phillips, 1996, P. 3)

Canadian City Parks as we know them today began to emerge in the latter part of the nineteenth century. Some cities did not establish parks until after the turn of the century because of their size or lack of financial resources (Martin & Segrave, 1983). City parks developed throughout the world for relatively the same reason during the nineteenth century. The industrial revolution led to a drastic increase in urban living, and with limited access to transportation, the only way to escape the city and experience nature was through the creation of city parks. During the nineteenth century the American urban parks and recreation movement (AUPRM) emerged and attempted to address social issues resulting from urban industrialism in which the "upper-class, educated men and women saw it as their aristocratic duty to raise the masses to the level of middle class standards" (Stormann, 1991, p. 137). This feeling was reciprocated in Canada (Ibrahim, 1991). In fact, the trend of establishing large municipal parks started in Canada before the United States (Ibrahim, 1991). Municipal parks and open spaces were developed not only to satisfy the demands created by urban populations but those living in rural areas outside urban centers (Burton, 1976).

"In 1883 the province of Ontario passed the first Canadian legislation affecting the general development of municipal parks. The province's 'Public Park Act' provided for the establishment of parks and park systems in cities and towns upon consent or petition of the electors" (McFarland, 1982, p. 263). In 1890, Vancouver was the first city in British Columbia to have an elected Board of Parks Commissioners (McFarland, 1982). The glory years of urban Canadian parks are considered to be from the 1890's to 1915 before the economic hardships of World War I and II and the Depression (Martin & Segrave, 1983). "The depression years of the 1930's had a mixed effect on the development of municipal recreation in Canada. Federal relief programs resulted in the improvement and further development of municipal parks but at the same time budgets for recreation programming were so seriously curtailed as to force some programs out of

existence" (McFarland, 1970, p. 48). The level of park development and expansion during the glory years has not been seen again, even during the make work schemes of the 1970's and early 80's when many park projects were revitalized (Welch, 1991).

During the 1960's when the economy flourished some cities established what is now their major park (Martin & Segrave, 1983). It is here the importance of urban park sustainability and development became an issue for community planners. Although urban parks did exist before this time, little emphasis and importance was placed on them. Now it was believed that "open space should be planned as an integral part of the urban environment rather than being an afterthought." (Whitaker & Browne, 1971, p. 132). Present day urban parks serve social functions, act as places for mass recreation, and create green spaces that attempt to meet environmental and conservation goals under strict public scrutiny (Dearden & Rollins, 1993).

An excerpt from a Research Report entitled Ecological Basis for Land Use Planning (Hills, 1961) provides evidence of the philosophical change in the way in which Canadian's view leisure and parks:

> Rural Land-Based Recreation: For planning the *optimum* use of the renewable natural resources, the definition of recreation must be narrowed to those activities which are dependent upon the physiological, geographic and ecological characteristics of land. These are the same characteristics which produce crops of agricultural, forestry, wildlife and fish products. However, the recreational activity does not necessarily involve the harvesting of a crop but merely the obtaining of sensory impressions (pp. 119).

Even the title "Rural Land-Based Recreation" emphasizes the fact that in 1961 the focus was on land and the economic value attached to it. The more current term "outdoor recreation" implies more of focus of recreation and people rather than on the land itself. The use of the word "optimum" insinuates that there was a strong economic thinking in the development of this document. Public land used solely for economic gain is a philosophy that has been outdated. Nanaimo's 1987 Official Community Plan and the Parks, Recreation, and Culture 1994 Master

Plan stressed the need to provide recreation opportunities and natural areas for their residents. Recreation was the Master Plans' primary mandate, not economics.

The economic focus of this 1961 report was replaced with more of a concern for the environment in the 1970's. The following is an excerpt from an Ecological (Biophysical) Land Classification Workshop in 1977:

> Canada's urban trees and forests lack comprehensive protection under contemporary legislation and regulation. As an example, the Ontario Municipal Act enables any municipality to compose and enforce tree bylaws, but only the larger municipal governments have enacted tree protection legislation. In general, municipal trees are more subject to removal than conservation (Anderson, 1977, pp. 99).

In the 1970's there was more of an awareness of the environment and conservation linkages that urban parks provided. "The concern with greenery, parks and recreation areas, open spaces, ...and improving the aesthetic appearance...played an important part in the initial town planning ideology." (Kaplan, 1982, pp. 252). Unfortunately, due to lack of political will, park improvements and additional parkland acquisitions did not occur. Parks still suffer for similar reasons, although not to the same extent. It was not until the 1980's that the importance of urban parks was more fully realized.

In March of 1996 the Commission on Resources and Environment, Wildlife Habitat Canada, Fisheries and Oceans Canada, and the Ministry of Municipal Affairs and Housing sponsored and jointly funded a research paper prepared by Calvin Sandborn entitled: *Green Space and Growth: Conserving Natural Areas in BC Communities*. This paper calls for the conservation of natural areas in communities believing that urban areas should be as important as provincial protected areas. Natural areas provide benefits

> whether in the form of municipal parks, riparian and treed areas in subdivisions, privately owned nature reserves, greenways that provide a continuous corridor of green space many miles in length, or sustainable farms and forests. Such natural areas provide aesthetic satisfaction and places for recreation; and they provide habitat for native plants and animals...Whatever its impact, ongoing urban growth will remain a basic fact of life in British Columbia. A necessary part of the challenge in developing growth strategies in coming years will be developing ways to most effectively plan for, maintain and manage natural areas in BC's communities (Sandborn, 1996, p. iv).

The importance of urban parks and natural areas have continually become more realized at the federal, provincial and municipal level. "There is conceptual and empirical support for recreation and leisure areas, services, and opportunities as contributors to community life satisfaction" (Allen, 1991, p. 345). Politicians and planners are now aware of the numerous benefits that municipal parks and recreation services provide to communities as a whole as well as to its' individual members

Benefits of Parks and Recreation

Leisure provides a holistic approach to health and wellness, which looks at the whole person, body, mind and spirit (Ballantyne, 1989). According to Mannell & Stynes (1991) there are five main leisure benefits which include the physiological benefits, psychological, social, economic and environmental. Physiological benefits refer to those arising from physical exercise which can include good cardiovascular health, stress reduction and weight control (Kraus, 1978). Recreation can even be seen as a therapy (Hutchison & Lord, 1979). Psychological benefits can be divided into three categories (1) development of the self - including self actualization, interpersonal and leadership skills, cognitive, social, and emotional development in children, and spiritual development; (2) experiential learning - skill and knowledge acquisition, and environmental attitude change; and, (3) short-term, transient experiential outcomes - flow experiences, mood, and fun (Mannell & Stynes, 1991). Flow provides an intrinsic reward for participation in an activity (Mannell, Zuzanek & Larson, 1988) and it is the feeling that everything is going just right when the individual involved experiences an altered sense of time (Furlong, 1976). The *Study of Satisfaction and Substitutability in Recreation Available to Residents of Urban British Columbia* also found that the number one recreational satisfactions being sought by urban British Columbian's was fun, followed by physical health, exercise and close contact with nature (Meyer, 1978). Family bonding, organizational wellness and community satisfaction are examples of sociological benefits. The economic and environmental benefits of leisure can include financial benefits to participants and non-participants from improved health, job creation (Johnson & Brown, 1991), ecological preservation, aesthetic benefits, scientific benefits through research,

endangered species preservation and historical benefits which can lead to religious/philosophical benefits and intrinsic values (Holmes, 1991). Recreation, also satisfies our basic need for sensory stimulation and motor activity, it provides a vehicle for our expression of imagination, it frees us of our inhibitions and above all, it is fun (Malkin, 1985). In general, recreation can provide the opportunity to "enhance the quality of life for all people" (Kraus, 1978, p. 3).

Research has also been completed on the benefits derived from urban parks and open space. There is some overlap with the benefits associated with outdoor recreation and leisure but the value of parks and open space can stand alone. Urban outdoor recreation areas are almost always activity oriented, verses resource based, and are usually managed by city governments and commercial operators (Bammel & Burrus-Bammel, 1982). Urban forests, natural areas and parks provide benefits by providing aesthetic satisfaction that emphasizes natural beauty and wilderness, creating green spaces and areas for recreation, providing habitat for native plants and animals and preserving wildlife corridors (Dearden & Rollins, 1993; Sandborn, 1996). Dryer, Schroeder and Gobster (1991) state that "urban trees are living, breathing organisms with which people feel a strong relationship and should not be thought as air conditioners, providers of shade, and ornaments in the urban system (Dryer, Schroeder & Gobster, 1991, p. 283). Urban forested areas can also relieve mental fatigue which causes impatience, distractibility and irritability, and they have been said to have a healing effect (Kaplan, 1993). Urban forests can include those trees along residential roads and freeways, commercial areas, neighborhood parks, natural and ravine parks, institutional properties (i.e. colleges), regional parks and private property (Kraus & Curtis, 1990). Urban parks also help reduce stress and other ailments, lead to higher job satisfaction, enhance contemplativeness, and are therapeutic in general (Herzog, 1989; Hull, 1989; Kaplan, 1993). They also "rejuvenate the city dweller, and provide a sense of peacefulness and tranquillity" (Hull, 1989, p. 326). There is a set of diverse environmental, economic, social, historic, psychological, physical, mental, emotional and even spiritual benefits associated with urban parks and forests. Community parks and recreation services can also strengthen neighborhood and community life by providing an opportunity to release hostility and aggression,

promoting a concern for nature, enriching cultural life, providing facilities for the disadvantaged and promoting active living (Kraus, 1978). This full array of benefits and community values need to be taken into consideration by planners and park managers in order to effectively manage and maintain parks and green spaces ((Dryer, Schroeder & Gobster, 1991).

The Canadian Parks and Recreation Association provided the most complete listing of all the benefits derived from parks and recreation in their 200 page *Benefits Catalogue* (1997). It summarized 141 benefits of parks, recreation, sports, fitness, arts and culture into eight statements:

1. Recreation and active living are ESSENTIAL TO PERSONAL HEALTH – a key determinant of health status.
2. Recreation is a key to balanced HUMAN DEVELOPMENT – helping Canadians reach for their potential.
3. Recreation and parks are essential to QUALITY OF LIFE.
4. Recreation reduces self-destructive and ANTI-SOCIAL BEHAVIOR.
5. Recreation and parks build STRONG FAMILIES and HEALTH COMMUNITIES.
6. PAY NOW or PAY MORE LATER! Recreation reduces health care, social service, and police/justice costs!
7. Recreation and parks are significant ECONOMIC GENERATORS in your community!
8. Parks, open spaces and natural areas are essential to ECOLOGICAL SURVIVAL. (Canadian Parks and Recreation Association, 1997, p. ix)

Park users are not usually cognitively aware of the benefits that they receive from walking or hiking along a trail. They may gain pleasure from the activity but are not consciously thinking "right now I am reducing my anti-social behaviour". So what does influence people's participation in recreation? It is a variety of factors including everything from mobility to age, income levels and time restrictions.

Factors that Influence Participation in Recreation

There are two countervailing factors that have led to the increase in present day urban leisure. The first one is the rise in the standard of living and the increase in the number of home owners. The second reason is mobility; these home owners were now also car owners (Spink, 1994). An increase in the standard of living means that individuals now have extra time to recreate and they want access to their leisure to be conveniently located close to home (Burgess, Harrison & Limb,

1988). An increase in mobility implies that those living in rural areas now have the ability to get to the parks and recreation facilities in the urban centers.

There are five basic factors that influence outdoor recreation participation. The first factor is people this refers to population size, living areas (urban, suburban, ex-urban, rural), age, and education levels. The second factor is money, this takes into account residents' affluence and amount of disposable income. The third factor is time. This refers to an individuals' occupation and mobility. The fourth factor is communication which refers to personal contacts in the community and mass media. The final factor influencing participation in outdoor recreation is supply which is effected by the availability and accessibility of recreation areas and facilities (Douglas, 1993).

"Access to leisure facilities and opportunities is determined by a number of factors: availability, investment, suitability, mobility, awareness, etc.--but for most people the critical influence is that of income" (Spink, 1994, pp. 11). In contrast, Ibrahim (1991) believes that gender and urban-rural differences are the greatest contributors to the uneven distribution of leisure. Other factors such as economics and the dominant value system of the community play a role as well. Barriers to participation in outdoor recreation have changed over time. In a 1962 study completed for the Outdoor Recreation Resources Review Commission, the number one barrier was lack of time (52%) followed by financial cost (17%) (Mueller & Gurin, 1962). Dual job families and commuting have also created logistic and time constraints on leisure (Cross, 1990).

Jackson and Searle (1985) studied barriers to recreation participation and concluded that non-participation in leisure activities is rather a complex phenomenon. "Earlier authors identified five main reasons for nonparticipation: lack of interest, lack of time, lack of money, lack of facilities, and lack of required skills. Jackson and Searle suggest that barriers to leisure should be looked upon as basically of two types: blocking and inhibiting. The status of each is not absolute, but rather relative to the individual and his or her circumstances" (Ibrahim, 1991. p. 241). In

comparison, Goodale and Godbey (1988) believe that there are three types of barriers to leisure. The first barrier is intrapersonal. This includes psychological and spiritual influences that can effect activity preference through such things as religious beliefs, stresses and perception of skill levels. The second type involves relationships with other people and is called intrapersonal. Goodale and Godbey's (1988) third barrier to leisure is structural. This is anything that creates obstacles between leisure preference and participation such as climate, work schedules and availability of resources.

A Study of Satisfaction and Substitutability in Recreation Available to Residents of Urban British Columbia was completed in June of 1978 in the Vancouver, Victoria and Campbell River areas. The study concluded that "satisfactions sought, as well as activities pursued, may be affected by age, income, former community size and former community location" (Meyer, 1978, p. 46). Their findings are fairly consistent with the factors and barriers to leisure mentioned previously.

PUBLIC PARK PLANNING PROCESS

Community Development

To understand the concept of community development, one needs to first have a working definition of community. This is more difficult than it first seems because the word community is quite a broad concept (Allen, 1991). In fact, it has been described in sociological terms as being omnibus (Poplin, 1972). *Webster's Dictionary* (McKechnie, 1972) defines a community as: a society of people having common rights, privileges and interests; society at large; the public; or people in general. Besides being more local than global in nature, what else defines a community? Firstly it has people, but it also has an element of place in terms of a specific geographic area. There also has to be some form of community identity where a local spirit forms a common bond (Rubin, 1985). It must also have a common culture in which the people of the geographic area generally share a body of knowledge, beliefs, customs, morals and laws. And finally, a community must encompass a social system where a number of people living in a certain area possess a sense of group identity and share a common culture (Bannon, 1985). "One of the

first things that we notice in a community is that its people display a number of patterns in their social relationships as they live and work together" (Connor, 1987, p. 5). The Harmony Foundation of Canada believes that "community is more than where we live. It is more than people. community is all encompassing: people, their cultural and social attitudes and activities, the land, water, air and all resident species. More specifically, community is about relationships, the interactions between and amongst all of these entities" (Harmony Foundation, 1994, p. 3). For the purposes of this research the community that will be studied is Nanaimo's present urban natural trails users.

Although the theory behind community development is a relatively new one, it is vital to contemporary community planning. The theoretical basis for community development is derived from all of the social sciences. In the 1950's and 1960's community development had a social focus. In the 1980's it had an economic focus and now in the 1990's it appears to have added an environmental focus. Some researchers believe that "community development occurs when people form their own organizations to provide long-term capacity for problem solving" (Rubin, 1985, pp. 1; Harmony Foundation, 1994), where as others think it is up to government and community planners to create these organizations (Connor, 1968; AAHPERD, 1985). Either way it is key to involve the public in every stage of the planning process and maintain strong public relations at all times (Bannon, 1985).

There are four assumptions which underlie the study of community development in terms of municipal parks and urban trails. The first assumption is that recreation services and community development are interrelated. The second is that recreation services and community development can benefit each other. Thirdly, recreation services and community development are but means to an end and not ends in themselves. Finally, recreation services and community development are effected by a range of global and local forces such as the value of the Canadian dollar (Rubin, 1985).

Social Planning

"Social planning is distinct from other forms of planning which have a focus on land, buildings and streets. Social planning focuses on people. [It]...involves the assessment of community needs, building community co-operation, providing support to citizen participation, and encouraging the community to become active in social issues" (Nanaimo Planning and Development, 1990, p. 2). The Province of BC defines social planning as "an open and accessible process which can be used to help government, community organizations, and citizens to plan for their present and future well-being" (Province of BC, 1996, p. 5). This definition is similar to the one produced by the Social Planning and Research Council of BC but with a community focus instead of governmental. "Community social planning is a local, democratic system of planning and taking action toward community social needs and interests in support of community well-being" (Curry, 1993, p. 4). The term's social planning, community planning and community social planning are used interchangeably for the purpose of this literature review. "For community planning is not just planning *for* a community; it is equally concerned with planning *by* a community" (Hodge, 1991, p. 324). The terms social planning and community social planning tends to be favored by government agencies whereas researchers use the term community planning.

"There are two basic reasons for community planning: one pragmatic (the need to deal with problems in the environment) and one ideal (the need to strive for a better environment). These approaches are not mutually exclusive. Those who participate in community planning—professionals or citizens, politicians or developers—seek to reconcile the pragmatic need to solve a problem and the human need to seek a more fitting environment" (Hodge, 1991, p. 11).

The current roles and functions of social planning in BC include (Curry, 1993):

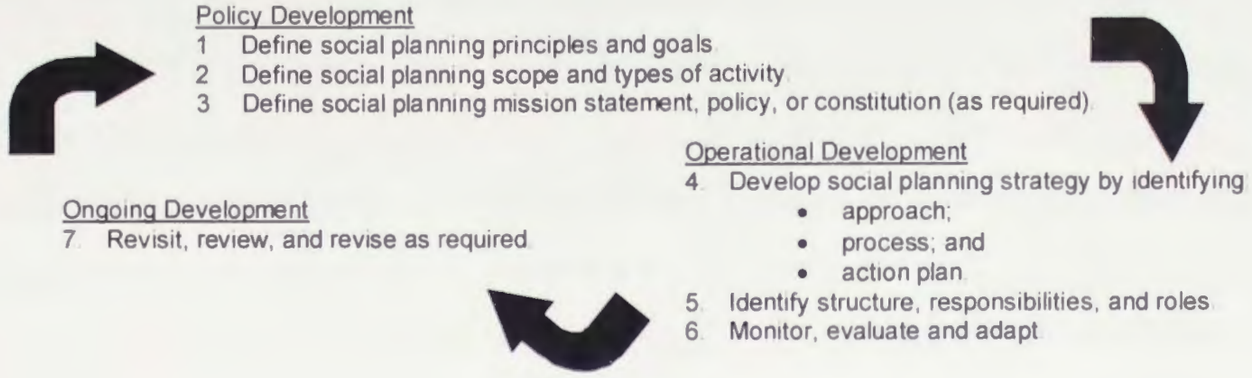
- Assessing Social Needs
- Policy Analysis and Development
- Community Planning
- Community Development
- Coordinating Services
- Monitoring and Evaluating
- Advocacy
- Collaboration

The level of public participation can vary in social planning processes; it can be reactive, preactive, proactive or conversational in nature. "While reactive planning is basically passive in nature, conversational planning engages participants in a dialogical process. Preactive and proactive planning fall somewhere between the two polar positions" (Drover and Hulchanski, 1987, p.1). "Public Participation means formal, readily accessible channels whereby decision makers sincerely consult interested individuals and groups before making a decision that might significantly affect them (Elder, 1987, p. 303). The important thing to remember about community planning is that "there is no single decision-making entity in control of the process" (Hodge, 1991, p. 339). "Twenty years ago the idea that the citizens could be in charge of their lives, was considered a very radical one. We clearly have come along way from that" (Longo, 1990, p. 1).

Three groups are usually involved in social planning: (1) a Social Planning Committee (or Social Planning Advisory Committee [City of Nanaimo], Community Social Development Board [Prince George] or Advisory Commission on Community [District of North Vancouver]); (2) Advisory Groups; and (3) Social Planners from the Planning and Development Department. Together they work with the community to "co-ordinate and identify community service needs and issues; promote cultural development; and initiate strategies and propose actions" (Nanaimo Planning and Development, 1990, p. 2). Although public planning discriminates among different interest groups in society (Knight, 1991) the social planning committee and advisory groups work together in attempt to balance out the differences. A social planning department has to be flexible, efficient, and be able to adapt to change quickly because otherwise they will not be able to take full advantage of new and innovative ideas as they develop.

The Province of BC also believes that it is important that social planning does not become static because it is important that it responds to ongoing changes and growth within the community. In response to this concern they developed a process for social planning but note that periodic reviews of the processes and approaches of social planning are necessary to help best serve the needs of the community (Province of BC, 1996):

Figure 1: Social Planning Process



During the 1990 International Making Cities Livable Conference in California two presenters attempted to summarize the principals involved in designing urban spaces that promoted social life and well-being (Crowhurst-Lennard and Lennard, 1990):

- To provide all members of the community, especially children, the elderly and the handicapped, safe and easy access.
- To facilitate frequent and regular use by local residents.
- To make persons feel significant and support their self-esteem.
- To reinforce a sense of belonging to an identifiable community.
- To encourage curiosity and exploration.
- To frame meaningful and memorable experiences.
- To orient people and facilities differentiated activities.
- To make it possible for a variety of persons to feel at home in the space.
- To amplify channels for interpersonal communications (eye contact, voice and facial recognition).

They generally believed that "what is needed is a more ecological approach to city design-one that respects the historic function of cities, the systemic connection between urban forms and social processes, and the need to involve all city dwellers, from experts to community members in decision making" (Crowhurst-Lennard and Lennard, 1990, p. 15):

TRAIL PLANNING, DEVELOPMENT AND STANDARDS

Site Planning

The site planning process has two phases. Phase one is the resource suitability study that looks at a number of factors at several sites and determines which site would be most suitable. The second phase involves completing a feasibility study that analyzes all aspects of the proposed site location.

The resource suitability study can be used in almost any situation. Once it is decided that a municipal park or trail is to be built, a list of proposed sites must be drafted. Next a site selection or resource suitability survey on all of the proposed areas is compiled. This survey should be specific to your needs. Distance to water may not be a concern if your trail will not permit horses but proximately to a stream may be if you intend on paving the trail. The purpose of this survey is to narrow down the list of proposed sites to the most suitable. The following is an example of a site selection survey which would evaluate three factors on a point system (Jubenville, 1976).

Recreational Factors:

- Availability, seasonability and diversity of outdoor recreation activities.
- Distance from the closest city center.
- Number of communities with access to the area.
- Positive or negative effects on the communities involved.
- Amount of damage to the surrounding ecosystems?

Aesthetic Factors:

- Distance from the trail head or road access to the aesthetic site (example: canyon or view point).
- Number of aesthetic sites.
- Carrying capacity of sites.
- Rate scale of aesthetics.

Environmental Factors:

- Availability of water.
- Could water access be created?
- Suitability of drinking water and pit toilets in the area.
- Flooding probability.
- Diversity of biological zones.
- Amount of vegetation and wildlife inhabiting the area.
- Diversity of wildlife. Amount of protected (endangered or rare) animals in the area.
- Potential for damage to a nearby water shed.
- Potential damage from proposed road access.

Another example of a site selection survey is the eighteen point system developed by the Outdoor Recreation Council of British Columbia (1981). They recognize a series of nine factors and nine suggested features that should be taken into consideration when developing a recreation site. These nine factors (suitability, availability, diversity, safety, cost, accessibility, number of natural aspects of the site, privacy, and generally is the site well liked by all relevant personnel and administrators) and features (open space, natural area, outlook, trails, exploratory area, campfire area, protected area and special features) are very similar to Jubenville's (1978) recreational,

aesthetic and environmental resource suitability factors. Since park design and park users needs have changed drastically over time it is important to look at a more current example of a site selection survey. Phillip's (1996) landscape survey is not only more current but it is also municipal park specific unlike Jubenville (1978) and the Outdoor Recreation Council of British Columbia (1981). His landscape survey analyzes two features: (1) the natural – this includes vegetation, geology, geomorphology, hydrology, climate and wildlife; (2) and the cultural – transportation, community facilities, utilities, controlling agencies, uses, pollution, economics, required needs (preservation, restoration, etc.), and other studies (population, recreation etc.). Although these three site selection surveys are all functional examples it is imperative that the survey design addresses all of the needs of the proposed site.

After completing a resource suitability survey and deciding on one particular site to develop, the next step is to complete a feasibility survey. It is here that planners consider what user groups the trail is being designed for, whether users needs can be met and whether the site is economically and environmentally affordable (Douglass, 1993).

Site Design

Planning the design of a recreation area involves a similar process as solving any land use issue (Rutledge, 1971). The site planning process incorporates some of the information gained from the site selection studies and puts the information in a tangible site design framework. "Site planning may be thought of as a compromise between the adaptation of the site to fit the program and the adaptation of the program on account of the site" (Laurie, 1975, p. 120).

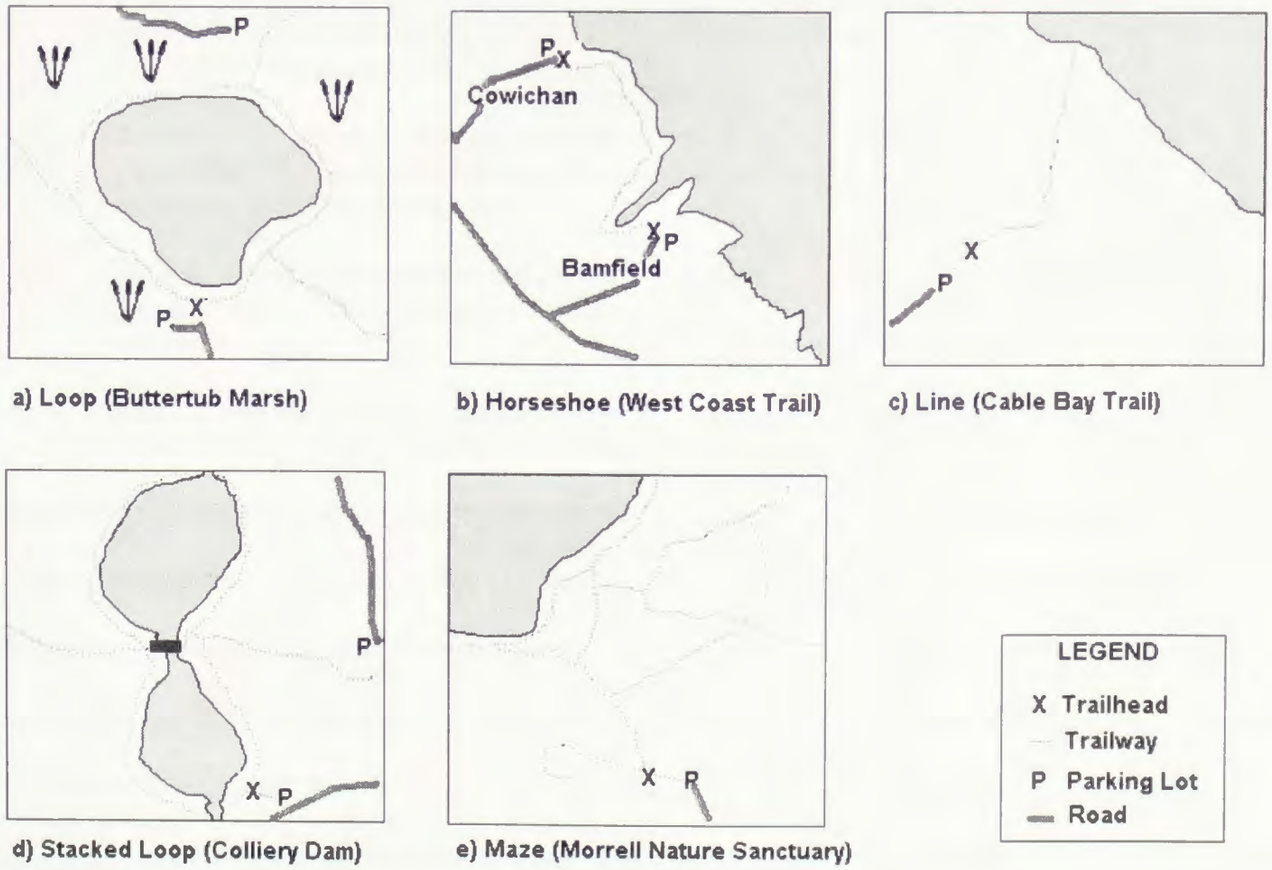
One site design planning framework involves a systematic three phase process that includes survey, analysis and synthesis (Rutledge, 1971). The survey involves three steps: (1) program development, (2) inventory of on-site factors, and (3) inventory of off-site factors (Rutledge, 1971). The next phase, analysis, takes into account program relationships, relationship diagrams and site analysis. This is the phase that considers social and psychological factors (Laurie, 1977).

The final phase involves creating a design concept, refining the plan and then creating the final approved plan for development. This is the phase were creativity comes into play. It is here planners use contrast of form to create mounds and valleys and make use of levels; create illusion by curving trails, hiding unattractive necessities like road ways and power lines, develop interesting and varying types of paths and textures; and create a feeling of suspense and lure for the park user by constructing arches, tunnels and vistas (Whitaker & Browne, 1971).

Trail Construction

A trail is designed based on its' intended usage, caring capacity, user types and preferences, and aesthetic and environmental conditions. These factors along with budget constraints must be taken into consideration before deciding what type and classification of trail to develop.

Figure #2: Trail Types



There are five main types of trails: (1) the loop; (2) the horseshoe, (3) the line, (4) the stacked loop; and (5) the maze (Refer to figure #2) (Proudman & Rajala, 1981). The loop trail is the most

advantageous because visitors never see the same portion of the trail twice and their sense of solitude is enhanced. The loop is also economical since there is only one trailhead and the cost of maintenance is lower.

While there are five types of trails there are also several classifications of trails. A loop trail can be designed as a 0.5 km wheelchair accessible trail or a 35 km wilderness trail. There are numerous manuals on trail standards and classifications including those developed by BC Parks, Parks Canada, the Ministry of Forests and the Canadian Institute of Planners. The following trail classifications are provided by BC Parks (BC Parks, 1991):

> Type 1 Designed for group traffic, such as scenic walks, in major developments and nature trails for guided walks. The tread width is to be six feet to eight feet and the maximum grade to be 8%. These trails are usually designed to support hiking as well as horseback riding, cycling and cross-county skiing. This trail should be wheelchair accessible and take between 5 to 30 minutes to walk. Loop or stacked loop trails are preferred.
>
> Type 2 These type of trails are similar to type (1) but they usually have some form of barriers and the tread in narrower. The trail should be approximately 1 to 6 km (10 min to 2 hours) in length and the maximum grade is to be 10%.
>
> Type 3 These type of trails are similar to type (2). The trail should be approximately 3 to 20 km (1 to 7 hours) in length and the maximum grade is to be 15%. These trails can also be used for multi-day use.
>
> Type 4 These trails can not support horse use and they would be impractical for interpretation. There is a maximum tread of 0.50 meter and are considered high wilderness use.
>
> Type 5 These trails are only used for hiking and snowshoeing. This is a wilderness hiking route only and there are no support facilities (campsites, etc.).

The 1991 provincial parks standards are also similar to Fogg's (1990) and Trapp, Gross and Zimmerman's (1994) suggested trail standards. Parks Canada (1978) recognizes two types of footpaths: day-use hiking trails and urban trails which are similar to type (1) and (2) of the BC Parks standards. In comparison the Ministry of Forests (1991) uses rural, loaded resources and semi-primitive as their three classification of hiking trails. Their three divisions of trail types are closely linked to the BC Parks standard types (2), (3), and (4). Phillips (1996) categorizes trails by their construction: woodland paths, gravel trails, paved trails, sidewalks and stairs; while other government agencies categorize trails by their width: main trails (2 to 3 meters in width),

connecting trails (1 meter in width) and limited access trails (0.75 to 1 meter in width) (Environment Canada, 1997).

Significant relationships have been found between the use patterns of park visitors and the accessibility of the site (Heckock, 1971). This does not imply that park planners should only focus on factors like accessibility, durability and maintenance issues when developing park trails. Trails should be designed to promote beauty, mystery and variety. "Enticing trail names, stories and artifacts, trails that curve out of view, vistas partially screened by vegetation, and sunny openings in canopy's" (Trapp, Gross & Zimmerman, 1994, pp. 78) provide an air of mystery for park users. By designing a trail that includes diverse landforms, landscapes, vegetation and wildlife habitats like Garry Oak Meadows, Douglas Fir old growth stands, sandy beaches, or swamps, a unique and varied atmosphere can be created. If a trail is designed to promote mystery and variety it can create a heightened interest for the park user.

User types and requirements must be kept in mind when designing trails. Deciding what trail users will and will not be allowed on the trail will probably have the greatest impact on the trail design and construction. Trail width and height will vary depending on the amount of traffic, visibility, terrain and most importantly users mode of transportation.

Hiking/Walking/Interpretive Trails

Short hiking or pleasure walking trails are usually 1.5 to 5 km long (Parks Canada, 1978) and long trails are 10 to 20 km in length and usually are considered to be equivalent to a one day hike (Fogg, 1990). Pedestrian trails in more urban settings need to be at least seven feet high and can be as little as five feet wide depending on the amount of intended use. Rural hiking trails are generally cleared well enough so that a hiker with a large pack on can walk erect and have their path unobstructed. This is usually four to six feet in width (Type 2 trail) with a one-foot clearance on either side. However, if underbrush is thick, or has few users it can be as little as three feet wide (Type 3 or 4) which will give the trail an aesthetic tunneling effect. Narrower trails are also

more stable due to the number of roots and low-lying shrubs. The average height of a hiking trail is about seven to ten feet or as high as one can reach. If possible a canopy should by left to keep the vegetation as natural as possible (Proudman & Rajala, 1981) and to protect the hikers from the elements.

It is important to keep your specific site and user preferences in mind when selecting trail construction materials. An asphalt or soil cement surface with a grade of less than one foot rise to every 18 ft is required to make trails wheelchair accessible (Trapp, Gross & Zimmerman, 1994). Joggers, hikers and walkers on the other hand prefer softer surfaces such as crushed rock or wood chips. For trails near aquatic areas they must consist of permeable non-toxic material. "Crushed aggregate with lightly compacted aggregate sub base is the preferred trail surface for high use or main trails [along water ways]. Bark mulch or hog fuel should not be used on trail surfaces near water as they produce leachate which causes serious water quality problems. Asphalt is not desirable [near aquatic areas] as it is impermeable and accelerates run-off" (Environment Canada, 1997, p. 10). Grass or natural surfaces are not recommended except in wilderness or low seasonal use areas. But generally surfacing should be done in such a manor to discourage erosion and encourage natural cover.

Bicycle Trails

Mountain biking is a relatively new activity that is popular with a wide range of age groups with varying skill level. "Given its relative infancy, trail standards to meet these needs continue to evolve" (Mertes & Hall, 1995, pp. 118). It is for this reason that there are limited industry standards available for mountain bike trails. There has however been extensive research in the area of trails designed for touring/road bikes.

The Canadian Institute of Planners have broken down bicycle trails into three classifications--bikepath (class 1), bikelane (class 2) and bike routes (class 3) (Fogg, 1990; Hope & Yachuk, 1990)--however they are not particularly relevant to off-road cycling. BC Parks on the other hand

has developed a classification system similar to their hiking trail classifications. Type (1) is paved and has a three meter right-of-way. Type (2) is constructed from crushed limestone and has a one meter tread for one directional riding and a 2 meter tread for two directional cycling. Both of these types of trails can support use from other users as well as mountain bikes. Type (3) trails are unsurfaced and are 10 to 20 km in length. Obstacles such as roots should only be 10cm high. Type (4) trails are 30 to 80 km long with obstacles up to 30 cm high.

On level terrain bikers can average 16 kmp/h and can cycle up to 60 to 80 km per day (BC Parks, 1991) so they need a minimum of 5 to 8 km of trail. Ideally bike trails should be between 10 to 30 km in length (Fogg, 1990) and should have a loop design if possible (BC Park, 1991).

When designing bicycle routes the following criteria should be considered: access, attractiveness, continuity, delays, destination, directness, funding, surface quality, topography, traffic type, volume and speed, user conflict and width of the bikeway (Hope & Yachuk, 1990).

The City of Nanaimo hired PERC to produce a cycling strategy after the Imagine Nanaimo process. They noted four design criteria that should by considered in the development of future bikepaths in municipal parks:

1. Keep multi-use pathways a minimum of 4 meter wide and encourage users to stay to the right.
2. Provide signage which designates multi-use, speed limits, pedestrian rights-of-way and pathway exits onto the street.
3. Establish natural barriers to fast cycling (e.g. bark mulch or gravel pathway surfaces, access gates, bridges or tunnels, stairs, planer boxes).
4. Enforce the Bicycle Bylaw, requiring cyclists to have a bell on their bike. (PERC, 1995)

Equestrian Trails

The trail requirements for equestrian use are quite demanding. The American National Recreation and Parks Association believes that horseback riders and bikers can not share trails due to horse excrement, accelerated erosion, horse spooking and the different trail length requirements. However, the 10 to 15 km of trails (ideally a loop) required for equestrian use

would be compatible with winter activities such as cross country skiing and snowmobiling (Fogg, 1990; BC Parks, 1991; Mertes & Hall, 1995). If trail planners are considering equestrian use, the trail needs to have a minimum height clearance of ten feet (Ryan, 1993). If the trail is for horseback riding only the trail is only required to be a minimum of 1 meter wide for one directional riding and 1.8 and 2.5 meters wide for a two way path (Fogg, 1990). The surfacing for equestrian trails should be designed to eliminate as much erosion as possible. A grass or wood chip surface would be preferable (Fogg, 1990) but even crushed stone can be used for intensely used paths (Parks Canada, 1978; BC Parks, 1991). Site selection for equestrian trails is important so horses have access to water along the trail, and the trails can be of adequate length and width and be able to with stand erosion.

ATV and Motor Bike Trails

When considering whether or not to allow motor bikes and ATV's into urban park areas it is important to have a large buffer zone to help decrease potential noise pollution to other park users (Hultsman, Cottrell & Hultsman, 1987) and local residents. The Ministry of Forests (1991) has broken down ATV and Motor Bike Trails into three classifications: novice, intermediate and difficult. All terrain vehicles require at least 30 km of trail or equivalent to 3 to 6 hours of riding. Trails should be at least 2 meters wide for one way routes and 3 meters wide for two way routes. In comparison trail bikes or off-road motor bikes require 80 to 160 km of trail and should be at least 1 meter wide and 2.5 meters high (Fogg, 1990). It is preferable to have single loop trails rather than two way routes.

Multiple Use Trails

Multi-use recreation trails can provide a multitude of benefits which can include the development of recreation and transportation routes, open space and ecological preservation, historic preservation, and neighborhood development (Ryan, 1993). However, even if the proposed trail can physically support multi-user groups, there is always the possibility of recreation conflicts that

can arise from differences in recreation activity style, resource specificity, mode of experience and tolerance for lifestyle diversity (Schneider & Hammitt, 1995).

Factors that influence park users response to recreation conflict are (1) personal – this includes commitments, activity style, and resource specificity; (2) beliefs related - this includes novelty, tolerance for lifestyle diversity, values and locus of control; and (3) situational - this can include novelty, distance, duration, number in party and type of party (Schneider & Hammitt, 1995).

Since multi-use trails require very precise structure and design they are often extremely costly to build from scratch. Therefore, developing a municipal trail network from existing pathways would save money, time and resources for the community. For that reason, "abandoned rail lines hold unparalleled opportunities as multi-use recreational trails" (Osborn & Morys-Edge, 1992). This also holds true for converting BC Hydro right-of-ways, gas lines, and water lines because they are already the recommended minimum width for a multi-use trail – four meters (Hope & Yuchuk, 1990).

Park Signage and Interpretation

Park interpretation serves three central objectives (Sharpe, 1976). The first one relates to the site, the second one to the agency and the third one to the visitor (Regnier, Gross & Zimmerman, 1994). Interpretation assists the visitor in developing a keener awareness, appreciation, and understanding of the area they are visiting. It fosters the proper use of the site and develops advocates. It also accomplishes management goals such as guiding patrons away from fragile areas. Interpretation can promote public understanding of an agency and it programs as well as promoting outdoor recreation. "All types of areas and situations should be interpreted too increase our understanding of the urban environment" (Wallin, 1976, p. 332). The BC Parks (1991) trail standards guide recognizes three types of interpretation: (1) high profile that discusses frequently visited features and are approximately 100 m to 2km in length; (2) post and pamphlet which is used to identify unique features of a park and is 1 to 3 km in length; and (3)

interpretive walking trails that interpret wildlife and vegetation. BC Parks interpretation classifications are more narrowly defined and expanded upon by Trapp, Gross, & Zimmerman (1994). They differentiate among six alternatives for trail interpretation (Trapp, Gross, & Zimmerman 1994) all with varying degrees of effectiveness and appealing to different types of park users. The first two types are personal and spontaneous alternatives: (1) interpretive led walks, and (2) roving interpreter(s) on trail. While the roving interpreter provides the "most individualized form of interpretation [because there are no large groups where] some members may not tune in" (Trapp, Gross, & Zimmerman, 1994, pp. 96), it is the interpreter-led walks that lead to more effective themes and stories. "Interpreters can work with the recreation department staff in many ways. A fishing derby, for example, can lead to a discussion on the feeding habitats of fish" (Wallin, 1976, p. 342). The idea of having a park interpreter is a relatively new one, many people are unfamiliar with the concept of a nature interpreter (Bowen, 1984). The other four alternatives are less personal and inflexible: (3) pamphlet or booklets that can be read before or after the hike, but do not provide immediate feedback, (4) leaflets or markers at trail sites, (5) trail signs which can interpret the site directly but requires visitors to read while standing, and (6) audio trails that can humanize the story but often detract from the nature experience and can be extremely costly.

Signage is an intricate part of all parks and it can play a key role in the type of experience park visitors will have. Over the years there has been various theories and trends regarding the type and construction of park signage. There are presently four guiding principles that park managers use when developing signage and interpretation areas.

The first principal is that the best interpretation is short and concise (Fogg, 1990; Trapp, Gross, & Zimmerman, 1994). The present trend is to shy away from lengthy signs and replace them with graphic symbols. Symbols can be posted in multiple areas and it will distract less from the rustic experience than larger, more detailed signs. They are also cheaper to reproduce and can be understood by those who cannot read. If symbols are not used the readability of the sign must be

measured using either the Flesch Readability Scale or the Write Formula. These scales will help determine if the reading level of the sign is appropriate.

The second guiding philosophy in present day sign making is that of compatibility (Trapp, Gross, & Zimmerman, 1994). Signs should enhance the experience that the park is attempting to promote. The material chosen for park signage should be constructed for durability, functionality and aesthetic appeal. A wood sign would be appropriate when a rustic, natural appearance is important whereas a fiberglass embedded sign would be useful when a lot of detailed graphics are required.

The third and fourth principles for successful signage are that interpretation should always be based on a unified theme and it should be closely associated with the experience (Trapp, Gross, & Zimmerman, 1994). Interpretive and educational signage should be located where the intense experience is taking place while the users' interest level is still high.

STUDY AREA

CITY OF NANAIMO PARK HISTORY

Nanaimo is one of the most rapidly developing communities in Canada (City of Nanaimo, 1992). In response to this rapid growth, the city has developed various planning initiatives that emphasized the importance of natural areas and community needs assessments. One of the first documents that emphasized the importance of the natural environment and the sustainability and development of urban parks and green spaces is the *City of Nanaimo Official Community Plan* (adopted into Bylaw in 1987). It discussed key planning issues in Nanaimo including growth management, design quality, natural environment, housing, commercial areas, parks and recreation and roads and transportation. The City of Nanaimo later adopted a social planning process called *Imagine Nanaimo* which also had some effect on urban parks planning and development. It eventually influenced *Plan Nanaimo* which was adopted into Bylaw and became the city's new *Official Community Plan* in 1996

Imagine Nanaimo invited all the residents of Nanaimo to become involved, and develop a community vision to be realized over the next twenty years (Imagine Nanaimo Steering Committee, 1993). Throughout this participatory planning process, the local government and city residents recognized two important goals relating to urban trails: 1) to preserve and protect Nanaimo's natural areas including parks, open space, trees, river and streams; and 2) to preserve and protect Nanaimo's natural areas and access to mountains and water (Imagine Nanaimo Steering Committee, 1993).

In 1993 the city developed a Parks, Recreation and Culture Master Plan. The plan was "meant to provide a framework for orderly and consistent planning; acquisition; development; and administration of the parks and recreation resources, programs, and facilities" (American Alliance for Health, Physical Education, Recreation and Dance,1985, pp. 1) (AAHPERD). The terms of reference for this project included three objectives:

1) To guide the orderly development of all types of parks, greenways and open space, including needs for land acquisition.

2) To develop a comprehensive recreation and cultural facility development plan.

3) To develop a plan which addresses current and future program needs (PERC, 1994, pp. 1).

These objectives were contained in a seventy-one page document that is meant to guide planning and development of Nanaimo's park and recreation resources for the next ten years. The plan contains over 112 recommendations for future developments and areas for potential study.

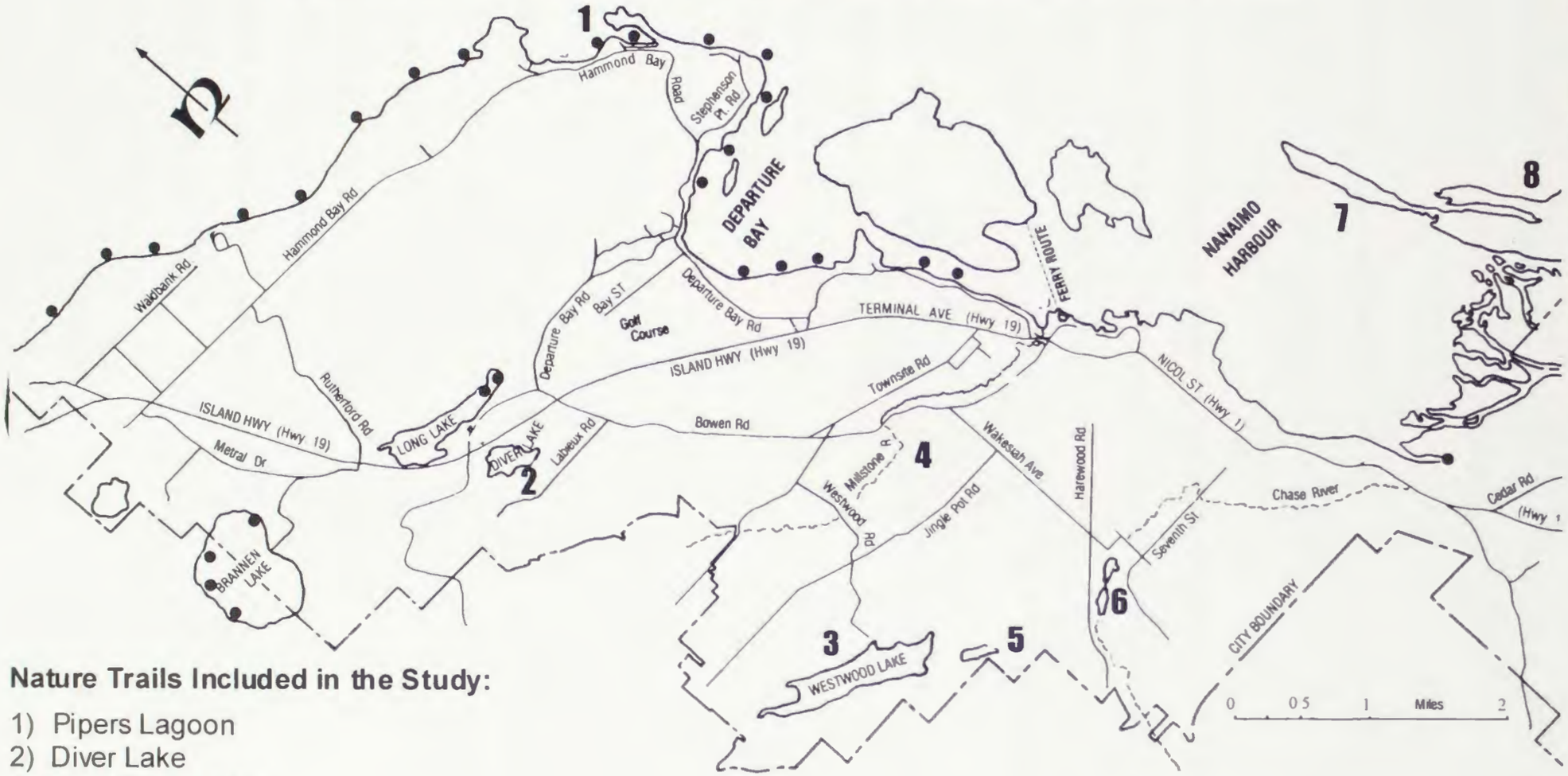
The most current document the City of Nanaimo has produced is relation to parks and open space is *Plan Nanaimo: City of Nanaimo Official Community Plan*. This was developed as a blueprint from the *Imagine Nanaimo* process in 1993. It was adopted into Bylaw on July 8, 1996. It has five objectives relevant to parks and open space:

1. To provide adequate parks and open space.
2. To improve access to parks and open space.
3. To meet the needs for open space in Growth Centers.
4. To conserve Nanaimo's natural and cultural heritage.
5. To create partnerships. (City of Nanaimo, 1996)

NANAIMO'S URBAN NATURE TRAILS

Eight of Nanaimo's urban nature park trails were chosen to be included in the study - Westwood Lake Park, Pipers Lagoon Park, Diver Lake Park, Buttertubs Marsh, Colliery Dam Park, Morrell Nature Sanctuary, Cable Bay Trail and Biggs/Jack Point Park. These parks are all within the City on Nanaimo's jurisdiction and are representative of the City's various districts. See the map in Figure #3 for more information. Detailed information on each of the sites was gathered during the recreation inventories. Each of the parks legal description, access points, park and trail facilities, signage, vegetation, wildlife, recreation opportunities, trail construction and safety issues and suggestions are listed on the following pages.

Nanaimo's Municipal Nature Trails



Nature Trails Included in the Study:

1) Pipers Lagoon
2) Diver Lake
3) Westwood Lake
4) Buttertubs Marsh
5) Morrell Sanctuary
6) Colliery Dam
7) Biggs/Jack Point
8) Cable Bay

● Waterfront Access/Viewpoint

Figure #3: Map of Nanaimo's Nature Trails

WESTWOOD LAKE PARK

Legal Description: City owned 20 year provincial lease to December 30, 1995. Found in Westwood Lake planning district (162.84 acres). Dedicated in 1946.

Access: This trail can be accessed from the main point of entry, Westwood Road, as well as from the Morrell Nature Sanctuary trail and the BC Hydro R.O.W.

Park and Trail Facilities: There are 8 garbage cans in the parking lot, picnic area and along the trailhead, but there are none along the trail itself. There are also 7 picnic tables, 6 park benches, 2 floating rafts and 2 lifeguard towers at this site. This park also has a concession stand, lifeguard room, and changerooms which include washroom facilities. These are only open seasonally.

Signage: The number and types of signs around Westwood Lake are as follows:

- City Park Regulations:
  - Park is open from dawn to 11 PM.
  - Overnight camping is not allowed.
  - Fires are not allowed.
  - Vehicles of any kind and horses are not allowed beyond designated roadways or parking lots.
  - Dogs or any other animals are not allowed on beaches from May 1st to Sep. 30th.
  - Bylaw #2121 - Dogs must be on a leash.
  - Liquor is prohibited in park areas.
  - Please co-operate and follow beach and park regulations.
  - Parks, Recreation and Culture Department. (1)
- Notice: No horses or motor vehicles allowed in park. (1)
- No gas motors. (1)
- No parking fire entrance. (1)
- Danger skate at your own risk. (1)

- City of Nanaimo: No dogs allowed on beach - May 1st to Sep. 30th inclusive. (1)
- Anglers: 3,000 Stocked Rainbow Trout on Oct. 4/95
- Park opens at 6 AM - Closed at 11 PM. (1)
- Be sun smart.
    - Seek out Shade
    - Slip on a Shirt
    - Slap on a hat
    - Slop on sunscreen (1)
- Notice: Trail around Westwood Lake is now open, necessary repairs have been made. Boardwalks have been constructed in wet areas. Please enjoy your walk and help us keep your park clean by packing out your litter. (1)
- The trailhead has a map of the hiking route along with the following 6 statements:
    - The hiking trail begins at the parking lot entrance to Westwood Lake.
    - The trail does travel around the perimeter of the lake. However, on the north side of the lake the trail is flooded at times of high water levels on the lake. A) the length of the hiking trail around the lakes perimeter is approximately 5.7 km (3.5 miles).
    - There is no telephone or toilet facilities on the trail.
    - The trail does have natural obstacles on it: lakes, cliffs, marshes, bridges.
    - Fires are not permitted in the park.
    - Please carry out your garbage. (1)
- The park also has various posts along the trail with distances, trail names and caution signs.

Vegetation: Westwood Lake has a large variety of trees, shrubs and plants. A summarized list is as follows: Western Hemlock, Western Red Cedar, Lodgepole pine, Broadleaf Maple, Grand Fir, Douglas Fir, Red Alder, Arbutus trees, ferns, blackberry, honeysuckle bushes and wild flowers including trilliums. Many aquatic plants are also located in the 152 acre artificial lake.

Wildlife: Numerous birds, mammals and reptiles can be found here: Red Squirrels, Blacktail Deer, Blue Heron, loons, beaver, bear, raccoon, chatty birds, snails and slugs, woodpeckers, tree frogs, toads, Canadian Geese, Mallard Ducks, American Coot and other waterfowl. Westwood Lake is also stocked with Rainbow and Cutthroat Trout.

Recreation Opportunities: This park can facilitate a variety recreation activities. Some of the activities presently taking place in the park include: hiking, jogging, kayaking, canoeing, windsurfing, mountain biking, swimming, fishing, wildlife viewing, bird watching, feeding geese and ducks, and nature interpretation. The park also has a large grass area that is excellent for Frisbee and other unstructured activities. Users can also rent aqua bikes, kayaks and small boats in the summer from lakeside venders.

Trail Construction: This trail would be classified by BC Parks standards as a Type 3 trail. There is one main loop trail that goes around the lake which has small footpaths leading to the waters edge and various look outs. It starts by the first parking lot and is a relatively flat trail. The first 0.5 km is even wheelchair accessible with the exception of a few muddy spots. The first 125 m of the trail consists of a light gravel covering with a 13 ft wide packed gravel/dirt base with no overhang or clearing on the sides. This leads to the start of the trail which varies between 8 to 14 ft wide and has mostly a forest bed cover with small pockets of large gravel and wood chips. There is the occasional rocky outcrop or exposed root section. The majority of the trail has plenty of tree canopy but there are sections without any cover. Large sections of the trail have very little wood chips left on the forest floor and are beginning to have drainage problems. Throughout the entire trail there are muddy sections with run off that are going to require either some gravel or wood chips before the trail continues to widen as hikers attempt to walk around the mucky sections. Near the BC Hydro R.O.W. access the trail narrows to as little as 4 ft wide with no clearing on the sides, with the same basic forest floor covering. There has been major erosion at the culvert's by this access point. There are also 2 gates with bike caution signs that would

prevent motor bikes, ATV's and horseback riders from using this portion of the trail. The stairs further down the trail would also act as a deterrent.

Safety Issues and Suggestions:

- Besides some of the minor trail improvements the only other concern with the Westwood Lake trail is signage. The trailhead is worn and needs replacing. The lettering is beginning to slide off the board and it is difficult to read. It says the walk around the lake is 5.7 km, however if you added all the sections of trail around the lake on the same trailhead it adds up to more than that. One the various trail markers around the lake reads that it is 7.1 km away from the start of the trail. Maybe the trailhead is supposed to read that it is a 7.5 km hike around the lake. The trailhead also contradicts the small sign at the start of the trail. Since the trailhead mentions that there are no toilet facilities on the trail, they might also want to mention that there are no garbage cans as well. In general the trailhead needs upgrading.
- A large number of the trail markers are either missing the direction signs off the posts or the lettering has worn off. The replacement signs should use engraved lettering so they are readable even when they start to fade. There is also some trail diversions that are not presently marked.
- Another suggestion is to eliminate some of the signs at the trailhead by amalgamating them. Some of the signs are repetitive and the number of signs is overwhelming. Most of the signs should either be incorporated on the regulation sign or on the trailhead. There is also no sign that says "swim at your own risk". This sign should be combined with either the "be sun smart" sign or the "skate at your own risk" sign. The regulation sign states that the park is open from dawn to 11 PM. This is contradicted by the sign on the gate that says the park opens at 6 AM and closes at 11 PM.
- If a hiker starts from the other end of the trail, there is no trailhead or list of park regulations. One should be installed
- The washroom doors are missing the male and female symbols.

COLLIERY DAM PARK

Legal Description: City owned dedicated through bylaw 2255. Found in Harewood planning district (27.67 acres). Dedicated in 1967.

Access: This park can be accessed from three different roads: (1) from the corner of 6th St. and Wakesiah, (2) Nanaimo Lakes Rd., and (3) Harewood Mines Rd.

Park and Trail Facilities: This park has 1 beach access and 1 floating dock. It has 4 garbage cans, 8 park benches and 4 bridges. There is also a changeroom facility that includes washrooms. It is closed during the off season.

Signage: The number and types of signs around Colliery Dam are as follows:

- Skate at your own risk. (1)
- Park regulations (2)
- No Lifeguard Supervision - Swim with Caution. (1)
- City of Nanaimo: No animals on beach from May 1 to Sep. 30 inclusive. (1)
- Trailhead with map. (1)
- No Diving (1)
- Warning - do not swim underneath dock (1)
- Anglers - Lake is stocked with Rainbow Trout - May 26 to Oct. 2/95. (2)

Vegetation: Diverse vegetation can be found in this area: Arbutus trees; Broad Leaf Maple; Red Cedar; Western Hemlock; Douglas Fir; Dogwood, Grand Fir, English Holly; Scotch Broom, ferns and other low lying shrubs as well as aquatic plants.

Wildlife: There is a bounty of aquatic life in the park including frogs, minnows and the stocked Rainbow Trout. There is also a large collection of mammals and birds in the area such as:

robins; Mallard ducks; slugs, deer, Canadian Geese, woodpeckers, eagles, songbirds, Eastern Cottontail and squirrels.

Recreation Opportunities: There is an extensive variety of outdoor recreation opportunities available in this small but well situated park. This list includes: swimming; fishing; biking; hiking; horse back riding; and canoeing.

Trail Construction: This trail would be classified by BC Parks standards as a Type 2 trail. This trail is a stacked loop with multiple access points. For the most part the trail has a chip cover over a forest bed base and is 4 to 6 ft wide with a diverse canopy cover. There is some minor erosion happening due to the lack of chip cover by the culvert's, exposed roots, and stairs. Near one of the bridges the trail is starting to get pretty muddy and has poor drainage. Some gravel as well as wood chips will be required to correct these problems. If the muddy spots were fixed a large section of the trail near the cement bridge would even be wheelchair accessible. The trail narrows in some areas and is only 2.5 ft. wide with some muddy spots and exposed roots.

Safety Issues and Suggestions:

- Minor trail improvements are required as described above.
- The trails diverge on many occasions and there needs to be sign posts or maps to indicate where each trail leads.
- There is no sign at the Harewood Mines Rd access indicating the regulations of the park or where the trail will take you.
- Trail degradation is happening along the lower lake where little trails are developing off the main trail from individuals trying to access the lake to go fishing. Perhaps one of these accesses should be turned in to an official trail and have a landing put in. This would help to preserve the trail integrity so that the main trail will not be eroded.
- Another concern is the old abandoned trail that used to have a bridge that crossed the gully between the Harewood Mines Rd. and the 6th St. access. Now that the bridge is no longer

there the trail comes to an abrupt end without any signs. No one will fall down the embankment, however individuals are beginning to walk down the steep banks or create new trails instead of using the main trail. This is starting to cause some erosion, run off and safety concerns. This particular portion of the trail should be covered up.

- One of the bridges has a set of stairs leading to the ravine. There is nothing down there to see and it has wet rocks that are dangerous. There is no point in having stairs at this site and they should be blocked off or removed.
- Park Benches need painting.
- Washroom hours should be posted.
- The No Diving sign and the Warning sign on the dock are extremely worn and need replacing.

CABLE BAY PARK

Legal Description: City owned and maintained, donated by MacMillan Bloedel. City only owns the right of way the surrounding land owned by MacMillan Bloedel. Found in Chase River planning district. Dedicated in 1995.

Access: This trail can be accessed by five points without the use of a boat, they are: 1) Nicola Rd., 2) Leaky Road (via a public beach access trail), 3) Harmac mill site, 4) White Road, and 5) from a service off Maughan Rd., near the Jack Point Water Reserve (between Giant Ainiscough Improvement Park and Jackson Rd).

Park and Trail Facilities: 1 garbage can at the bridge.

Signage: There are presently two signs in the park:

- Maximum 20 people on bridge. (2)

Vegetation: Diverse vegetation can be found in this area: Arbutus trees; Red Alder; Broad Leaf Maple; Red Cedar; Western Hemlock; Douglas Fir; Grand Fir; Scotch Broom; wildflowers, ferns and other low lying shrubs as well as a vast array of aquatic life.

Wildlife: Extensive aquatic life such as starfish, sea lions, crabs, and fish can be found here as well as a large collection of mammals and birds such as woodpeckers, deer, rabbits, blue heron, raccoons, song birds and red squirrels.

Recreation Opportunities: hiking, nature viewing, bird watching and fishing.

Trail Construction: This trail would be classified by BC Parks standards as a Type 2 trail. This is a line trail with one trail head. The official Cable Bay Trail is, or will be, constructed of wood chip approximately 6 ft in width, with 1 ft clearings on either side. The trail leading to Cable Bay from the Leaky Road access is often steep, and has loose rock. The trail is only 2 ft wide maximum and has steep side slopes where major erosion is taking place.

Safety Issues and Suggestions:

- The Leaky Road access only has the one sign: Public Beach Access. It should state the length of the trail and have other park signage as well as a garbage can.
- The Nicola Road and White Road access points needs signs as well. Several people get lost every week and end up walking along Holden Corso Road back to their car.
- MacMillan Bloedel is doing some tree thinning in the area and there should be warning signs so hikers do not wander on to the logging roads.
- There is presently a sign on along the official Cable Bay trail that says No Trespassing by order of MacMillan Bloedel. This sign needs to be removed.

BIGGS PARK AND JACK POINT PARK

Legal Description: Both parks are city owned and were acquired as greenbelt to be dedicated as park from BC Hydro R.O.W. #697. Found in Chase River planning district. Biggs Park is 22.46 acres and was acquired in 1979. Jack Point Park is 32 acres and was acquired in 1985.

Access: There are only two points of entry for this trail except via water. They are: (1) the parking lot in Biggs Park, and (2) the Jack Point Trail parking lot. Both of them are located on Maughan Rd. and the two trails connect.

Park and Trail Facilities: There are 3 garbage cans, 1 park bench, and several bird houses.

Signage: The signs in Biggs Park and Jack Point Park are as follows:

- No Shooting - City of Nanaimo Bylaw. (3)
- Park Regulations (1)
- Public Notice from Fisheries and Oceans - Information on crab fishing and toxic shellfish. (2)

Vegetation: These parks have Garry Oak trees, Arbutus trees, Douglas Fir, Red Cedar, Broad Leaf Maple, Poplar trees, nursing logs, wildflowers, and extensive aquatic vegetation.

Wildlife: Biggs and Jack Point Parks provides homes for sea gulls, heron and other sea birds, extensive aquatic sea life including crabs, shell fish and starfish as well as rabbits, red squirrels, deer, woodpeckers and the occasional bald eagle.

Recreation Opportunities: This site offers beach activities such as crabbing, fishing, visiting tidal pools, and collecting shells and driftwood as well as hiking, nature and scenery viewing, bird watching and picnicking.

Trail Construction: This trail would be classified by BC Parks standards as a Type 2 trail. This is a line trail with multiple access points. The trail leading from Biggs Park to Jack Point trail is (8 ft) wide and is constructed of packed rock. It has no canopy cover and it runs between Maughan Rd. to the right and the ocean on the left for the first 0.5 km. After this point you enter Jack Point Trail and then there is a large set of stairs. Jack Point trail has the same basic construction with no drainage problems until the last 300 ft of trail. Besides this small section the trail is in excellent condition, as well as the stairs and boardwalk over the bog.

Safety Issues and Suggestions:

- There is little work required on the trail itself; however, there are several areas of concern with both parks. The first is the overwhelming amount of litter. Biggs and Jack Point Park have the most litter of all the parks included in this study. People are also dumping grass cuttings and other refuge along the roadway and in the parking lot. The access points are especially bad for litter. Perhaps a sign with "no dumping" and the amount an individual can be fined for littering should be posted. This might even be useful to add to the bylaw signs.
- Another concern even with the (3) No Shooting signs is the number of shells (from a 12 gage shotgun) can be found along the pathway.
- A regulation sign needs to be posted in Biggs Park.
- Another area of concern is the undeveloped trail leading from Biggs Park. Since the trail is unmaintained its' use should be discouraged. A sign should be erected for this purpose.
- Sign posts should also be erected to let hikers starting at Biggs Park know when they have entered Jack Point Trail. The other option is to have a map at both parks so hikers do not walk past their parking area.

PIPERS LAGOON PARK

Legal Description: City owned purchased through crown grant. Found in Hammond Bay planning district (7.81 acres). Dedicated in 1970.

Access: There is only one access to Piper Park except from other public beach accesses, private property or the ocean. This access is off Place Drive Rd. near Hammond Bay Rd.

Park and Trail Facilities: 2 port-a-potties, 6 park benches, 4 picnic tables, 4 garbage cans, 1 feces station and it also has a portable concession stand open weekends during the summer.

Signage: The number and types of signs around Pipers Lagoon Park are as follows:

- Public Beach: No animals allowed. (2)
- Please be aware: Lagoon is subject to strong winds blowing out from the shoreline. Caution should be used to prevent drifting out to George Straight. (2)
- Park Regulations (1)
- Maximum Penalty $500.00. All pet owners are responsible for removal of their pets feces from public parks. (1)
- Enjoy the flowers, but do not pick them. (1)
- Recreation Shellfish Reserve (1)
- Shellfish Closed Paralytic Poison (1)
- Trailhead and map (1)
- Dog owners are required to remove feces left by their dogs. Use the bags provided. Deposit waste in garbage container. (1)

Vegetation: Pipers Lagoon has Garry oak trees, arbutus trees, Douglas fir, Red cedar, Broad Leaf maple, Red alder, Western hemlock, red currant, blackberry bushes, beautiful yellow and purple wildflowers, and aquatic vegetation.

Wildlife: There is a vast array of aquatic sea life in the area including many types of fish, crab and other shellfish. Piper's Lagoon is also home to the Blue Heron, Eastern cottontail, hummingbirds, woodpeckers, seagulls, bald eagles, deer, squirrels, robins and other songbirds.

Recreation Opportunities: This park offers a large variety of outdoor recreation activities: beach combing, scenic viewing, kite flying; rock climbing; windsurfing; sea or surf kayaking; hiking; swimming; scuba diving; snorkeling; collecting rocks, shells, and driftwood; as well as biking along some sections of the trail.

Trail Construction: This trail would be classified by BC Parks standards as a Type 1 trail. This is a modified loop trail with a main line trail for the first 100 meters. The trail around the lagoon starts off in the parking lot. It has an ocean view on either side of the trail with no canopy cover. It is approximately 8 ft wide, flat, packed, and covered with large gravel. After this first 100 meters, users have their choice of hiking to the top of the rock climbing cliff or scrambling over a rock mound to another beach trail. This trail is between 1.5 to 3 ft wide with varying degrees of canopy protection and floor coverings. Some sections of this trail have chip or gravel, but for the most part the trail is made up of rock outcrops with poor drainage. There is the beginning of many "short cuts" and some sections of the main trail are almost completely blocked by brush. Exposed roots are being damaged quite extensively along this trail.

Safety Issues and Suggestions:

- There are a couple of areas along the trail where safety is becoming an issue. The sections of trail that have steep side slopes or exposed roots need to be better maintained. With continued wear on the exposed roots a big gust of wind could blow a large number of the trees over.
- Another area of concern is the short hike to the top of the rock climbing cliff. There is no designated trail and users are beginning to tramples the flowers and damage some of the smaller trees.
- The front gates that get locked every evening are an excellent safety measure but it is presently attracting large teen groups later in the evening. They are scaring away some of the other park users and leaving behind cigarette butts and beer cans.

- With the large number of dogs that visit Piper Lagoon Park, it might be worth considering erecting a no leash zone for dog owners.

MORRELL NATURE SANCTUARY

Legal Description: Owned by the Nature Trust of BC and donated by Willam Morrell in 1984. Managed in conjunction with the Nature Trust of BC and an advisory board. Found in the Westwood Lake planning district (89 acres).

Access: The only road access to this park is Nanaimo Lakes Road. However it can also be accessed from Westwood Lake trail and the BC Hydro R.O.W..

Park and Trail Facilities: 4 outhouses; interpretive center (Woods Room) with a refrigerator, sink, and microwave; wheelchair accessible trail - Yew loop; squirrel and bird feeders; dry erase board by the trailhead, 2 garbage cans, 2 picnic tables, 13 park benches, 2 covered shelter areas and turnstiles to stop bikers from using the trail.

Signage: Morrell Nature Sanctuary has a collection of interpretive signage and they also provide extensive trail markers with maps. This is the only park in the study that used trail names. Although they do have some rule and regulation signs located at the entrance of the park most of Morrell's signage is for interpretive purposes:

- Morrell Nature Sanctuary. Society office 1050 Nanaimo Lakes Rd. (1)
- Open Dawn to Dusk. 787 Nanaimo Lakes Rd. 5 kph (1)
- Entrance (1)
- Welcome to Morrell Nature Sanctuary. (1)
- This is a Wildlife Sanctuary. All dogs must be on a leash. City of Nanaimo Bylaw #2121. Morrell Sanctuary Society. (1)
- Trail head and map: Welcome to Morrell Nature Sanctuary. A special message to visitors. Please help protect this sanctuary by observing the following rules: no fires,

shooting, horseback riding, motor bikes, and no fishing (symbols). Your co-operation is appreciated. (1)

- Beaver pond boils with activity: insects, mosquitoes, swallows, wood ducks, and beaver. (1)
- To parking (arrow) (2)
- Yew Loop trail (2)
- Information board: Welcome to Morrell Nature Sanctuary. Journal and Newspaper Articles. (1)
- Wheelchair accessible trail (symbol) (1)
- All trails (arrow) (1)
- Please take valuables with you. (1)
- Please no bicycles. (1)
- Keep right. (Yew loop trail also has every 0.1 km marked along the trail) (1)
- Tsuga Way (1)
- Bears have been sighted recently. Take these precautions: Whistle or make noise as you walk. Keep pets leashed. Keep your distance, but never run from a bear. (1)
- Fire Lane (arrow). Hydro Line (arrow). (1)
- Look out trail (2)
- Lower Maple Trail (1)
- Red Wood Meadow (1)
- Maple Trail (1)
- This is a wildlife sanctuary, foot traffic only. (1)
- Alder trail (3)
- Beaver Pond trail (2)
- To hydro line (arrow) (1)
- Morrell Lake (1)
- Lake trail. Upper (arrow), Lower (arrow). (1)
- Upper lake trail (1)

- You are entering Morrell Nature Sanctuary. Please treat out plants and wildlife with respect. (1)
- Tranquillity (3)
- Beaver Pond trail (1)
- Rocky Knoll trail (3)
- Rocky knoll (arrow) (1)
- Signposts with maps are at most of the trailheads

Vegetation: Morrell Nature Sanctuary was logged in the late 20's and early 30's. It consists of 278 acres of second growth forest with mixed species and ecosystems containing a large variety of trees, shrubs, flowering plants, and non-flowering plants such as moss and fungi. The tree varieties are as follows: Arbutus, Douglas fir, red alder, broadleaf maple, Northern Black Cottonwood, Pacific Dogwood, Grand fir, Western Hemlock, Lodgepole Pine, Western Red Cedar and Pacific Yew. Some of the many shrub varieties are as follows: Blackberry, flowering red currant, red elderberry, English holly, orange honeysuckle, red huckleberry, ocean spray, Oregon grape, salmon berry, scotch broom, thimbleberry, common wild rose, and cattails.

Wildlife: The sanctuary also contains a large number of birds, mammals, insects, invertebrates, reptiles and amphibians, such as tree frogs, garter snakes, and banana slugs. Some of the mammals that can frequently be found in the sanctuary are: beaver, blacktail deer, eastern cottontail rabbit, red squirrel, raccoons, and the occasional bear. Birds living in the Morrell area consist of: swallows, various ducks, Canadian geese, Steller's jay, Pileated woodpeckers, Blue Heron, Bald Eagle, Red Breasted Huthatch, Red Tailed hawk, owls and flinchers.

Recreation Opportunities: Morrell offers excellent hiking, nature viewing, interpretive & educational walks, and jogging opportunities. Sanctuary users are also permitted to use the fire roads for mountain biking or horseback riding. Morrell Nature Sanctuary is the only park in

Nanaimo that offers full interpretive services. They have markers, pamphlets, nature boards, an interpretive centre and interpreter lead walks for community and school groups.

Trail Construction: Most of the trails in Morrell Nature Sanctuary would be classified by BC Parks standards as Type 3 trails. It is a maze trail system which also has several smaller loop trails included in its' system. Basic trail construction consists of packed forest ground cover with a light wood chip covering that is approximately 2.5 ft wide with lots of canopy protection. The fire access roads are constructed of packed gravel. Yew loop is constructed with a cinder cover and would be classified as a Type 1 trail.

Safety Issues and Suggestions:

- Stairs on Upper Lake trail are deteriorating.
- Alder Lane connector is overgrown and there is not adequate signage or a signpost map.
- No sign to indicate where Westwood Lake trail begins or how to get to the BC Hydro R.O.W. from the top of the Alder Lane connector.

BUTTERTUBS MARSH SANCTUARY

Legal Description: Owned by the Nature Trust of BC and managed by the Ministry of Environment and the Buttertubs Marsh Advisory Board. The marsh was donated in 1975 and the walkways were built in 1982. Found in the Westwood Lake planning district (22.02 acres).

Access: There are 7 different access points to the marsh; 4 of them are located along Bird Sanctuary Drive, 1 on Buttertubs Drive (this is the main access point with the largest parking area), 1 off Jingle Pot Road, and 1 from a 55+ mobile home park.

Park and Trail Facilities: 9 park benches, 0 garbage cans, and 1 look out tower

Signage: This park has various posts along the trail that re-emphasis the park regulations and state the distances to the trailhead. The remainder of the signage is a follows:

- Trailhead: The Nature Trust of BC purchased this 17 hectare marsh in 1975 for the purpose of preserving and developing important habitat for wildlife. Improvements include dikes to control water levels, ditching and clearing to provide habitat diversity, resting islands and boxes for waterfowl and other birds. Trail and an observation tower are provided for public use. (1)
- Nesting Area - Do Not Disturb from April to June. (1)
- Hazard - Enter at own risk. (1)
- Wildlife Area - Do Not Disturb Wildlife, Fish, or Vegetation. (1)
- Pedestrian Access Only. (7)
- Interpretive sign with picture of ducks, reading: Healthy Ducks, Healthy Food. (1)
- Warning fast water at control structure - enter at your own risk. (1)
- This is your Buttertubs Wildlife Sanctuary - Please help protect this sanctuary by observing the following rules:
    - Leash your dog.
    - Keeping to the footpaths.
    - Motorbikes not permitted. (3)
- Maximum Penalty $500.00. All pet owners are responsible for removal of their pets feces from public parks. (1)
- Animal Control By-law - 1987 #3230. The owner of a dog shall not permit, suffer or allow their dog:
    - to be at large.
    - to harasses or molest a person, animal or poultry.
    - to be on a public beach during the months of May - Sept.
    - to be on the deck of any wading or spray pool. (4)
- Animal Control Bylaw - Maximum penalty $500.00. The owner of a dog shall not permit, suffer or allow their dog:

- to be at large.
- to harasses or molest a person , animal or poultry.

All pet owners are responsible for removal of their pets feces from public parks. (1)

Vegetation: This park has arbutus trees; red alder; Garry oak; bull rushes, skunk cabbage; blackberry bushes, Scots broom and many other varieties low lying shrubs.

Wildlife: This marsh has a variety of aquatic life including an amazing water fowl collection: Pigeons, Scaup, American Wigeon, American Coot, Canadian Geese, and Mallard Ducks. Other wildlife found in the park is as follows: robins, blue jays and numerous songbirds; beaver, rabbits, woodpeckers, deer's and red squirrels.

Recreation Opportunities: Besides enjoying the natural surroundings marsh users can also: feed the ducks and geese, hike, bike (in sections), jog, and stroll around the marsh. Dogs are permitted as well.

Trail Construction: This trail would be classified by BC Parks standards as a Type 1 trail. The trail is 2.4 km long loop trail. The beginning of the trail is about 10 ft. wide and is constructed of small to medium packed gravel, large stones and dirt. This eventually narrows to 4 ft. in width and is constructed of packed dirt and gravel. There is a minimum of a 7 ft clearing, but for the most part there is no canopy cover. This dirt trail eventually leads to a 26 ft wide and 100 ft long paved section. From here the trail becomes chip and about 4.5 ft wide. It is extremely well drained and maintained except for a short section near the end of the trail by the last access point off Bird Sanctuary Drive.

Safety Issues and Suggestions:

- Since all of the parks access points (except for the last one off Bird Sanctuary Drive) have signs emphasizing the importance of keeping dogs on a leash and picking up after them it

might be worth while placing garbage cans (or even a feces disposal stations) in strategic locations to encourage the public to pick up after their dogs.

- A dog by-law sign should be installed at the Bird Sanctuary Drive access.
- The trail posts should also name the street access.
- Another area of concern is the tire swing over the creek. There is fast moving water below and it is not very deep. There also is no warning or use at your own risk sign and it is a liability. The tire swing should be taken down.
- The length of the trail should be posted at the trailhead and the pedestrian only sign is not posted early enough. A biker could be half way down the trail before they realize their bike will not fit through the turnstiles.
- The latch on the gate is broken.
- Weeds around some of the park benches need to be cut.

DIVER LAKE PARK

Legal Description: This park is city owned and is a compilation of four parcels of land acquired at different times. Found in the Green Lake/Diver Lake planning district (7.27 acres). Dedicated in 1970 and contains a sewer R.O.W. through the park.

Access: There are two non-connecting sections of trail around the park. The longer portion of the trail that starts in the tennis courts can be assessed from Labieux Road, Oriole Drive, Shenton Road and Black Franks Drive. The other section of the trail can be accessed from Shenton Road (different access point) and Ardoon Place.

Park and Trail Facilities: 5 garbage cans, 5 park bench and 2 floating docks - 1 is wheelchair accessible, joggers circuit, tennis courts, BMX track, and field.

Signage: The joggers circuit contains a number of stretching and exercise stations which includes signage. Not including those there is still a number of signs around Diver Lake Park. They are as follows:

- Skate at own risk. (2)
- No owner of a dog shall not permit, suffer or allow their dog to be at large. (2)
- Handicap accessible fishing floating dock. (1)
- Bicycle Moto Cross Track sign and regulations. (1)
    - Motor vehicles are prohibited, BMX bicycle use only.
    - This track is a recreational track for casual leisure use and cannot be used for racing or competition without the written consent of the city.
    - BMX safety equipment, such as helmets, gloves, knee pads, elbow pads must be worn and BMX standard bicycles used on the track by everyone using the track.
    - Bicycles must be restricted to the track and kept moving from start to finish.
    - Track can only be used with consent and knowledge of parent or guardian.
    - The track is used at your own risk. The track is not supervised.
    - Spectators must remain outside log rails.
    - No one may use the track unless experienced in riding a BMX bicycle on a bicycle moto cross track.
    - The City of Nanaimo is not liable for any damage or injury resulting from any persons use of this track in any way whatsoever.
    - Do not ride bicycles on jogging circuit. (1)
- Tennis courts.
    - When others are waiting for the courts please limit games to 30 minutes, and play doubles if possible.
    - When courts are reserved for department lessons, your cooperation is requested in vacating the courts.
    - Proper footwear is essential for your safety and playing enjoyment as well as to preserve the quality of the playing surface. Please wear running shoes only.

- Thank you for your cooperation. (1)

- No golfing. (1)
- Trailhead - Fitness Circuit and Map (1)
- No Dumping (1)
- Park Regulations (1)
- Park opens at 6 AM - Closes at Dusk. (1)
- No gas motors. (1)
- Public Beach Access (1)
- Boats - Stop the spread of Eurasian Water Milfoil. Remove all lake weeds from boat and trailer before entering and after leaving the water. (1)
- Anglers - Lake is stocked with Rainbow Trout. Cacheable - 730. 3/7/96. (1)

Vegetation: Diverse vegetation that can be found in Divers Lake Park. Red alder, broad leaf maple, oak, Douglas fir, red cedar, vine maple, Lodgepole pine, low lying shrubs, wild roses, bull rushes, holly, Lilly pads and other aquatic plants.

Wildlife: There is a bounty of aquatic life in the park including frogs, minnows and the stocked Rainbow Trout. There is also a large collection of mammals and birds in the area: robins; Scaup, American Wigeon, American Coot, Mallard ducks; slugs, deer, Canadian Geese, woodpeckers, Eastern cottontail and squirrels.

Recreation Opportunities: Besides going for a jog or using the fitness circuit, park visitors can also walk, hike, bike, play tennis or baseball, use the BMX racing track or playground, go fishing or feed the ducks. Boats with electric motors are also permitted on the lake.

Trail Construction:

Shenton/Ardoon access: This trail would be classified by BC Parks standards as a Type 1 trail. It begins as a 5 ft wide line trail with a 1 ft clearing on either side with some small gravel and wood

chip cover that has mostly worn away. The trail quickly narrows to 2 ft in width with a 1 ft clearing on either side after the dock. It appears that the trail has had little use--weeds have grown up in the middle. There is also a 0.5 km of paved access from Ardoon Place to the main trail.

Labieux/Black Franks Drive access: This trail would be classified by BC Parks standards as a Type 2 trail. This area is a network of interconnecting maze trails and other park facilities. From the parking lot the trail starts off as a packed gravel base that is 4 ft in width with a clearing ranging from 1 to 6 ft. Some sections need more gravel, but for the most part it has good drainage. From here to the handicap floating dock (200 ft) is paved. After this point the trail deteriorates and is only about 3 ft wide with a forest cover base that has muddy sections. The section that cuts through the marsh is about 7 ft wide with 1 ft clearing on either side. There are many exposed roots and because the trail is so muddy people are walking closer and closer to the edge. This is causing erosion and the trees are no longer effectively absorbing water and acting as a barrier to the marsh. In effect the trail is disappearing.

Safety Issues and Suggestions:

- Shenton/Ardoon access: There is some grass cuttings and tree branches that have recently been dumped in the area. Perhaps a sign indicating the maximum fine for dumping might discourage refuge being dumped in the park.
- This section of trail would have increased use if it was either connected it to the other network of trails, or signs were put up along the roadway. Presently the only signs in this section of the park are "Public Beach Access" and "Skate at your own risk". Neither of these are visible from the main access off Shenton. A garbage can in this area would also be necessary if there was an increase in use.
- Labieux/Black Franks Drive access: Brush need to be cleared from some of the circuits stations.
- The fence that has fallen over on the pathway needs to be repaired.

- When the trail diverges it would be convenient to have distance and locations of the various access points
- The interpretive sign from around the lake is missing

RESEARCH METHODS

RECREATION INVENTORIES

Inventories are a type of closed-ended questionnaire that is ideal in situations where information is needed on non-human subjects (Ontario Research Council on Leisure, 1977). In the case of this research, background information was needed on the trails before an observational survey could be designed. Eight urban nature trail sites were evaluated: Piper's Lagoon, Westwood Lake, Divers Lake, Colliery Dam, Biggs/Jack Point, Cable Bay, Buttertubs Marsh and Morrell Nature Sanctuary. These sites were analyzed in terms of (1) access, (2) park and trail facilities, (3) signage, (4) vegetation and wildlife, (5) recreation opportunities, (6) trail construction, and (7) safety issues and suggestions. Each of the eight inventories also contain a brief park history and legal description.

The recreation inventories provided the background information for the observational studies, questionnaires, and focus groups. The inventories allowed the researcher to discover what recreation activities are taking place in each park and what access points to observe. It also provided data on signage and trail construction. This data may also play a role in use patterns and park users attitudes to multiple use issues and park development. An example of this is a sign from Westwood Lake that reads, "Notice: Trail around Westwood Lake is now open, necessary repairs have been made. Boardwalks have been constructed in wet areas." This sign may have changed use patterns and park users attitudes towards development.

OBSERVATIONAL STUDIES

Observational studies are a form of survey research which have been called unobtrusive observation (Mitchell & Jolley, 1988), scientific observation (Chadwick, Bahr & Albrecht, 1984), observation method (Sproull, 1988), or field research (Babbie, 1992). Either way, the methodology is fairly similar. This method of research can be defined as "a data collection

method in which a person observes subjects or phenomena and records information about characteristics of the phenomena" (Sproull, 1988, pp. 166). The observation method is an effective way of studying social organizations like informal groups such as park users (Poplin, 1972).

Due to time constraints and ethical concerns the observational studies were not in-depth behavioral analysis or complete studies in terms of seasonal variability. This survey was merely a sample study of Nanaimo's present trail users. The purpose of the observations was to obtain a sample of the eight nature trail sites including their use patterns, number of users and their characteristics, and to observe some possible user conflicts.

These observations also helped serve in the development and design of the interview questions. By observing the amount and different types of park visitors that use the trails, questions on use patterns and conflicts can be formulated. If 50% of the trail users had dogs and the other 50% of the users biked, the emphasis of the questionnaire would be quite different than if 95% of the trail users hiked and did not have any dogs. Information on how often park directional signage, trailheads and garbage cans were used can also be translated into appropriate questions. It is also important to find out how many people arrive without a vehicle to help determine if the trail users are mostly local residents or if they come from other districts to use the park. If large amounts of park users are coming from different areas to use this trail it is important to find out why, and if there are similar trails in their district not being used. This will be done in the questionnaire stage of the research and will help determine if more trails need to be built, or if the promotion of certain park trails is necessary.

The site observational studies involved visiting all eight trails at random times, days of the week, and weather conditions to evaluate users preference for location and activities, as well as to gain visitor attendance rates. Other data was also recorded during the

observational studies including: the number of dogs, bylaw violations, patrons reading trailheads or other signage, garbage can use, and the number of visitors arriving without the use of a vehicle. For further information please refer to appendix 1 for a sample of the observational studies form.

The eight study sites were observed in systematic three hour time slots: 6:00 to 9:00 AM, 9:45 to 12:45 PM, 1:30 to 4:30 PM, and 5:15 to 8:15 PM; and were put on a rotating schedule so that each site was observed for the equivalent of 12 hours per day on both a weekday and either a Saturday or Sunday. The sites--Westwood Lake, Morrell Wildlife Sanctuary, Buttertubs Marsh, Colder Dam, Pipers Lagoon, Jack Point Trail, Divers Lake, Cable Bay Park--were observed from May 25 to June 17, 1996. All access points to the trails were reviewed and those receiving the most users were the ones chosen for the observation studies. By only using the access point that received maximum use, a bias was developed. However, this was kept to a minimum because for the most part all trail users can be seen from the primary access points. This observational survey is intended to balance out some of the respondent bias implicit in all other forms of surveys (Abbey-Livingston & Livingston, 1982).

INTERVIEWS

There are two forms of questionnaires: self administered surveys where individuals hand back or mail back their responses; and in-person or telephone interviews where the interviewees physically or verbally respond to the interviewer's questions.

This research used the in-person structured survey format where respondents were asked a standard list of questions in a set order. This method was chosen because of the number of advantages it provided.

The first real advantage is that it "elicits information directly from people" (Sproull, 1988, pp. 161) and personal interviews also tend to arouse the respondent's interest and a higher probability of participation is then incurred (Rea & Parker, 1992; Babbie, 1992). If respondents had to drop off the survey the next day or mail it in the response rate would have been quite low. In-person interviews also allowed for more complete and accurate answers and it helped avoid circumstances where respondents may have skipped questions or been turned away when they had to do large amounts of writing (Abbey-Livingston & Abbey, 1982). This was a concern because of the large number of open ended questions that were included in the survey. It also allowed the interviewer to clarify information as questions were raised (primarily about no leash zones), explain more complex information, and educate at the same time (other park trails in the area) (Sproull, 1988; Rea & Parker, 1992). It eliminated the "don't know" and "no answers" responses (Babbie, 1992). It also allowed for the use of visual aids like the District and park maps (Dandekar, 1988; Rea & Parker, 1992).

Respondents for the in-person interviews were selected randomly, every second person, or group that walked, jogged, biked or wheeled past the interviewer was asked to participate in the questionnaire. Providing that the respondent had not previously been questioned, the group member with the birth date closest to the interview day was selected.

The interview schedule was similar to the observational studies in that six of the eight trails were surveyed at random times, days of the week, and weather conditions to gain an understanding of the trail users use patterns, their perceptions and demands, and views on multiple use issues and future development. The six study sites were observed in systematic three hour time slots: 6:00 to 9:00 AM, 9:45 to 12:45 PM, 1:30 to 4:30 PM, and 5:15 to 8:15 PM; and were put on a rotating schedule so that each site was observed for the equivalent of 12 hours per day on both a week day and either a Saturday or Sunday. The sites--Westwood Lake, Morrell Wildlife Sanctuary, Buttertubs Marsh, Colliery Dam, Pipers

Lagoon and Divers Lake Park--were observed from August 1 to August 31, 1996. Due to the lack of attendance at Jack Point Park and the temporary closure of Biggs Park they were dropped from the research schedule.

These interviews surveyed a broader spectrum of users and obtained general data on use patterns and trail users attitudes on the present level of development and maintenance of park trails. Along with questions that probed for information on trail users comfort levels with certain user groups such as cyclists and dog owners, it also provided an understanding of their present and possibly future use patterns. This information was then used to help formulate questions for the focus groups. See appendix #2 for more information.

FOCUS GROUPS

The final survey method involved implementing focus groups with community organizations that were presently using the park trails. This included the Tuesday Hikers, Thursday Hikers, and Bastion Cycle.

This research used focus groups primarily for idea generation and attitude assessment. Since "there is a world of difference between making a decision alone and making a group decision," (Poole & Hirokawa, 1986, p. 15) it was important to find out how community organizations, like the Tuesday Hikers, view some of the major issues surrounding the regulation, maintenance and development of Nanaimo's parks. How the Tuesday Hikers view dogs and the number of washrooms along the trail could be dramatically different than the findings of individual respondents. Due to synergy, the focus groups could also generate solutions to some of the user conflicts and suggest changes that should be made to either individual parks or to the park system as a whole.

These particular groups were chosen for several reasons. All of the participants were actively involved with a community organization that was presently using Nanaimo's park

trails. Therefore they were interested in the topic and would be willing participants. They were also generally a homogeneous group because of the large amount of time they spend together each week (4 to 8 hours) participating in similar activities throughout the year. These groups were also the largest user groups that regularly used the park trails included in this study.

To ensure that the focus groups were successful the atmosphere was kept relaxed and the groups were kept small. The meeting places were chosen by the group leaders and were convenient for all of the participants.

The focus groups met the following five objectives:

1) Supply the background information, history, and the park use pattern of each group;
2) Determine what factors play a role in their use patterns;
3) Discover and interpret their perceptions on the present level of park maintenance, safety issues and the quality and quantity of existing facilities and resources;
4) Determine if they have had any conflicts with other trail users; and
5) Recommend changes and raise concerns about any of the above issues.

The focus group with the Tuesday Hikers took place on December 10, 1996. The interviewer joined the participants at 9:00am for their morning hike and facilitated the focus group during their lunch break from 12:30 to 1:30pm in the field. The meeting with Bastion Cycle took place at their bike store at 6:30pm on December 9. 1996. The focus group with the Thursday Hikers occurred at 8:00am at the Bowen Park Recreation Center on December 19, 1996.

DELIMITATIONS

Due to time constraints and the potential magnitude of this research there were a number of delimitation's placed upon it. The number of parks included in the study, number and

duration of observational studies, interviews and focus groups are all delimitation's that affected the research.

The City of Nanaimo has over 240 hundred parks in their jurisdiction. There was not the time nor the resources to include all of the parks in this study. The eight parks - Westwood Lake Park, Pipers Lagoon Park, Diver Lake Park, Buttertubs Marsh, Colliery Dam Park, Morrell Nature Sanctuary, Cable Bay Trail and Biggs/Jack Point Park - were chosen for several reasons. First, they are within the city boundaries. Although not all of the parks are managed by the City's Parks, Recreation and Culture Department (two of them are owned by the Nature Trust of BC and co-managed by other agencies) they are still considered municipal parks in principal due to their location and ties to the city's parks department. The rustic setting of the parks was the second major reason for choosing the eight sites. The sites provided a variety of natural resources and outdoor recreation opportunities and for the most part were less developed, had limited facilities, unpaved trails and were well treed. All of the parks sites also contain unpaved trails at least 1 kilometer in length with limited access points in which the researcher would be able to observe the majority of trail users.

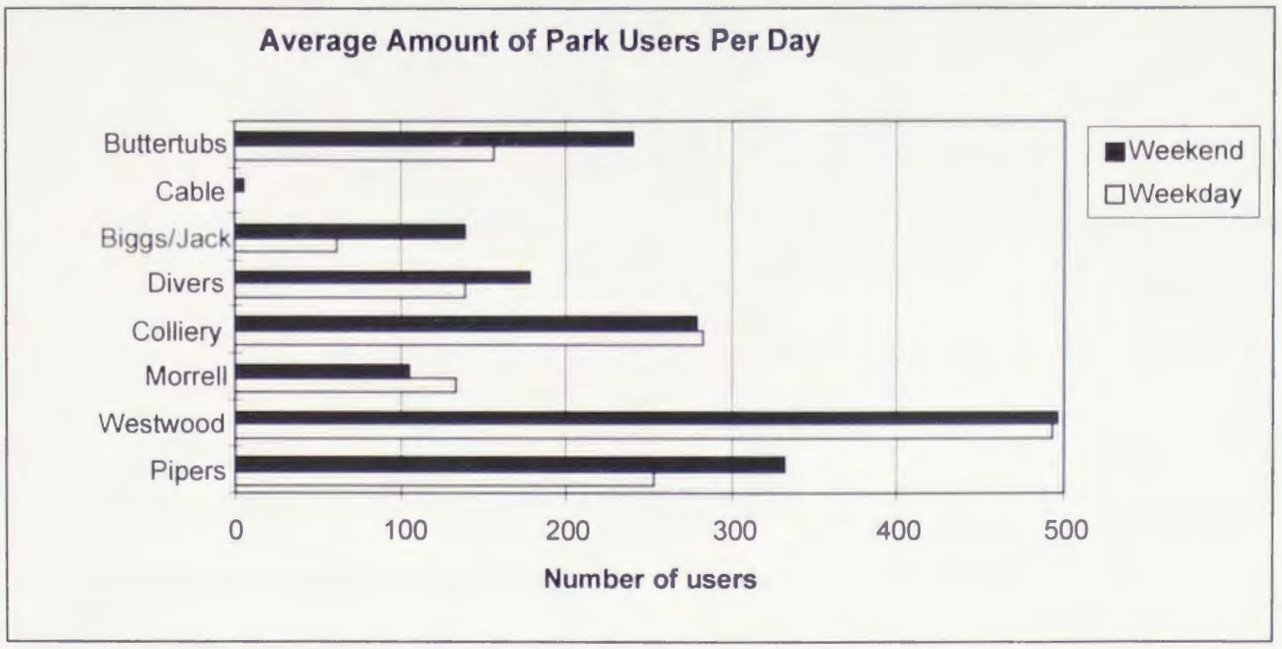
Time and resource constraints were factors in regards to the number and duration of observational studies, interviews and focus groups. A maximum of 48 hours was spent at each site including both the observational studies and interview surveys. There was also only enough time to complete three focus groups which lasted between 45 minutes to 1.5 hours each.

RESULTS

SITE OBSERVATIONAL STUDIES

The results for the following observational studies were completed from May 25 to June 17 of 1996 and represent the estimated pre-summer use of eight urban park trails. The results are based solely on the 24 hours each site was observed.

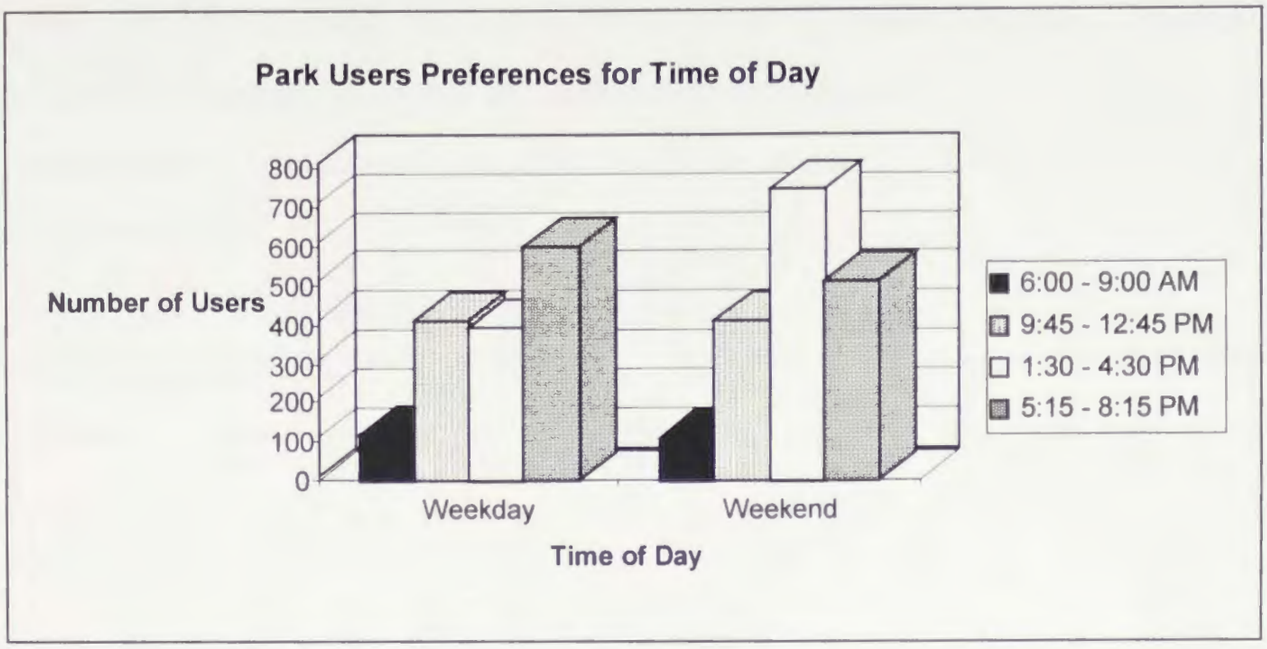
Figure 4: Average Amount of Parks Users Per Day



After the completion of the eight site observational studies some trends were noticed in park users preferences and use patterns. Westwood Lake Park is the most frequently used park averaging about 500 people a day, followed by Colliery Dam and Pipers Lagoon Park with about 300 people utilizing the park daily. The other five parks studied: Morrell Nature Sanctuary, Divers Lake, Biggs/Jack Point Park, Cable Bay Park, and Buttertubs Marsh also received varying levels of use depending on time of day and weather conditions. With the exception of Morrell, weekend use was higher than weekday use in all the parks. With a few exceptions due to weather conditions or large organized user groups, the amount of park use increased throughout the day. The 6:00 to 9:00 AM shift had the lowest number of users and the 5:15 to 8:15 PM shift had the greatest amount of park users. The amount of park users reading signage or using the garbage cans was

calculated to be less than 1%. Refer to figures 4 and 5 for general information on all the parks and to tables 1 to 8 for site specific information.

Figure 5: Park Users Preferences for Time of Day



Pipers Lagoon Park

On a typical weekday there would be approximately 255 park visitors compared to the weekend which would have about 330 visitors a day. 13% of these users arrived at the park without a vehicle. On initial observation this park, during the 1:30 to 4:30 PM shift, only received 20 visits due to poor weather conditions. The park was later observed in excellent weather conditions and there were 239 people. Since the second observation was done later in the summer, July 11/96, it was not included in the results, but it does provide evidence for the trend of increasing use throughout the day. The evening weekend shift was also re-evaluated (July 13/96) and it went from 100 park users to 437 users.

On weekdays the majority of dog users come in the early morning or later in the evening. About 45 dogs came to the park weekdays and about 40% of then were on a leash. Approximately 10% used the feces station. About the same number of dogs come to the park on a weekend but approximately 60% of the dogs were on a leash and about 30% used the feces station. Dog use

on the weekends is fairly consistent throughout the day, but receives maximum use during the afternoon.

About 77% of the total park users use the trail and about 70% of these users hike. Less than 2% of park users bike, jog, swim, fish, rock climb or boat at Piper Lagoon Park. This leaves approximately 23% of users that do not use the trail and remain in their vehicles, or only use the field or beach.

Table 1: Use Patterns of Pipers Lagoon Park

Pipers Lagoon Park													
Weekday	**Total Park**	**No Car**	**Dogs**	**No Leash**	**Feces Bag**	**Use Trail**	**Hike**	**Jog**	**Bike**	**Boat**	**Swim**	**Rock Climb**	**Fish**
6:00 - 9:00 AM	23	6	15	7	3	23	17	3	2	0	0	0	0
9:45 - 12:45 PM	47	8	11	6	1	42	28	0	0	0	0	9	0
1:30 - 4:30 PM	20	4	5	2	0	23	23	0	0	0	0	0	0
5:15 - 8:15 PM	163	13	13	3	0	97	93	2	1	1	4	0	0
Daily Total	253	31	44	18	4	185	161	5	3	1	4	9	0
Weekend	**Total Park**	**No Car**	**Dogs**	**No Leash**	**Feces Bag**	**Use Trail**	**Hike**	**Jog**	**Bike**	**Boat**	**Swim**	**Rock Climb**	**Fish**
6:00 - 9:00 AM	11	5	7	5	6	10	10	0	0	0	0	0	0
9:45 - 12:45 PM	73	9	10	8	6	45	40	3	2	0	0	0	2
1:30 - 4:30 PM	147	17	17	10	1	130	125	0	5	0	0	0	0
5:15 - 8:15 PM	100	15	11	3	0	79	77	1	0	0	0	0	1
Daily Total	331	46	45	26	13	264	252	4	7	0	0	0	3

Westwood Lake Park

There was poor weather conditions on the 5:15 to 8:15 PM shift on the weekend this survey was completed. Had the weather been better during this shift the number of park users would probably have been more consistent with the other parks in regards to weekend use being higher than weekday use and the evening shift being the busiest of the day. On average about 500 people can be expected in this park on a typical weekday. 650 to 700 visitors can be expected on a weekend. About 12% of these park users arrive without a vehicle. As mentioned, there was poor weather conditions on the weekend 5:15 to 8:15 PM shift so the number of park users was low. The evening weekend shift was later re-evaluated on July 13/96 and the number of park users went from 101 to 211.

Approximately 60 dogs use this park on a weekday verses about 70 dogs on the weekend. On a weekday about 56% of dogs are not on a leash and about 36% of them are on the beach. On a weekend about 59% of dogs are not on a leash and about 56% of them are on the beach.

On a weekday about 38% of the total park users use the trail around Westwood Lake--about 80% of these are hiking, 8% are jogging and about 12% are biking. Of the non-trail users, approximately 8% go fishing, 8% go swimming and about 5% go boating (75% have no motors). On a weekend about 44% of the total park users use the Westwood trail--60% of these are hiking, 12% are jogging, and 16% are biking. Of the non-trail users approximately 5% go fishing, 6% go swimming, and 6% go boating (80% have no motors).

Other Observations:

- Individuals living by the lake play their music so loud that it can be heard in the far parking lot. There is often music wars between the vehicles of the park users and the residents.
- Later in the evening after 7:00 PM Westwood Lake becomes a major teen hangout. Large amounts of alcohol are consumed by teen groups and individuals fishing.
- Parking lots are almost at maximum capacity in the evenings and traffic in the park is quite congested from the large amount of cars that drive in and turn around and drive out.
- Another observation is that there appears to be a large number of police patrols early in the morning when there are few users. However, there seems to be next to no patrols later in the day when the large teen groups are using the park.

Table 2: Use Patterns of Westwood Lake Park

Westwood Lake Park													
Weekday	**Total Park**	**No Car**	**Dogs**	**No Leash**	**On Beach**	**Use Trail**	**Hike**	**Jog**	**Bike**	**Fish**	**Swim**	**Boat Motor**	**Boat Non**
6:00 - 9:00 AM	26	4	7	4	0	25	24	1	0	0	0	0	0
9:45 - 12:45 PM	162	22	7	3	2	47	35	5	6	0	22	0	3
1:30 - 4:30 PM	132	20	24	9	5	50	37	1	9	9	11	0	7
5:15 - 8:15 PM	173	13	21	17	14	64	54	8	7	28	4	6	8
Daily Total	493	59	59	33	21	186	150	15	22	37	37	6	18
Weekend	**Total Park**	**No Car**	**Dogs**	**No Leash**	**On Beach**	**Use Trail**	**Hike**	**Jog**	**Bike**	**Fish**	**Swim**	**Boat Motor**	**Boat Non**
6:00 - 9:00 AM	42	4	13	9	7	31	7	19	1	1	0	0	0
9:45 - 12:45 PM	102	15	24	14	17	58	50	6	3	10	0	5	5
1:30 - 4:30 PM	251	38	20	7	8	71	43	0	23	10	31	1	15
5:15 - 8:15 PM	101	7	12	11	7	56	29	1	8	5	1	0	2
Daily Total	496	64	69	41	39	216	129	26	35	26	32	6	22

Colliery Dam Park

There was poor weather conditions on the 5:15 to 8:15 PM shift on the weekend this survey was completed. Had the weather been better during this shift the numbers of this park survey would have been more consistent with the other parks with regards to weekend use being higher than weekday use and the evening shift being the busiest of the day. On average about 300 people can be expected in this park on a typical weekday. Closer to 350 to 400 can probably be expected on a day during the weekend. About 37% of these park users arrive without a vehicle on the weekend and approximately 75% arrive without a vehicle on a weekday.

On the days data was collected an average of 50 dogs visited the park a day. About 63% of the dogs are not leashed and about 25 to 30% could be found on the beach. Approximately 90% of the park users use the trail and 50% hike, 10 to 20% jog, and about 20 to 30% bike. Of the non-trail users an estimated 10% fish, 7% swim and less than 2% of the park users use boats.

Other Observations:

- There are some major conflicts between people fishing and swimming. Perhaps a designated fishing or swimming area in the lower lake would help.

Table 3: Use Patterns of Colliery Dam Park

Colliery Dam Park												
Weekday	**Total Park**	**No Car**	**Dogs**	**No Leash**	**On Beach**	**Use Trail**	**Hike**	**Jog**	**Bike**	**Fish**	**Swim**	**Boat Non**
6:00 - 9:00 AM	28	22	18	15	2	28	21	5	2	0	0	0
9:45 - 12:45 PM	73	53	10	3	2	71	27	40	2	2	0	0
1:30 - 4:30 PM	76	62	7	4	2	60	39	2	21	9	12	1
5:15 - 8:15 PM	105	74	10	6	5	88	48	7	26	15	7	4
Daily Total	282	211	45	28	11	247	135	54	51	26	19	5
Weekend	**Total Park**	**No Car**	**Dogs**	**No Leash**	**On Beach**	**Use Trail**	**Hike**	**Jog**	**Bike**	**Fish**	**Swim**	**Boat Non**
6:00 - 9:00 AM	30	9	11	9	2	22	13	1	7	10	0	0
9:45 - 12:45 PM	72	37	12	7	0	69	16	25	18	3	3	0
1:30 - 4:30 PM	122	40	14	7	7	112	52	0	34	13	16	1
5:15 - 8:15 PM	55	18	12	8	5	51	28	0	12	6	0	0
Daily Total	279	104	49	31	14	254	109	26	71	32	19	1

Divers Lake Park

On a weekday about 140 people use Divers Lake Park and approximately 37% of them arrive without a vehicle. There are about 25 dogs in the park a day and about 36% are not on leashes. Of the total park users about 12% fish; less than 1% boat (non-motor), feed ducks or use the BMX track; 4% use the field or playground, and about 6% use the tennis courts. Of the trail users (67% of overall weekday park users), approximately 69% hike, 3% jog, and 20% bike.

During the weekend approximately 180 people visit the park daily and about 60% use the trail. Approximately 25% arrive without a vehicle. An estimated 22 dogs use the park with about 45% off them are off leash. 76% of the trail users hike, 3% jog, and 20% bike. About 16% of the overall park users fish, 3% use non-motorized boats, 7% feed the ducks, 8% use the BMX track, 6% use the tennis courts and playground, and about 3% use the field.

Table 4: Use Patterns of Divers Lake Park

Divers Lake															
Weekday	**Total Park**	**No Car**	**Dogs**	**No Leash**	**Use Trail**	**Hike**	**Jog**	**Bike**	**Fish**	**Boat Non**	**Feed Ducks**	**BMX**	**Ball Court**	**Play Area**	**Field**
6:00 - 9:00 AM	17	9	4	2	14	9	0	1	6	0	0	1	0	0	1
9:45 - 12:45 PM	38	7	5	3	17	14	1	2	2	0	0	0	4	0	2
1:30 - 4:30 PM	42	14	6	4	35	24	2	5	2	1	2	0	4	3	3
5:15 - 8:15 PM	42	22	10	0	27	17	0	11	7	0	0	0	0	3	0
Daily Total	139	52	25	9	93	64	3	19	17	1	2	1	8	6	6
Weekend	**Total Park**	**No Car**	**Dogs**	**No Leash**	**Use Trail**	**Hike**	**Jog**	**Bike**	**Fish**	**Boat Non**	**Feed Ducks**	**BMX**	**Ball Court**	**Play Area**	**Field**
6:00 - 9:00 AM	6	3	4	1	5	5	0	0	1	0	0	0	0	0	0
9:45 - 12:45 PM	37	14	10	3	25	15	1	9	4	1	1	7	2	2	0
1:30 - 4:30 PM	51	12	1	1	25	17	0	7	6	1	5	4	6	3	5
5:15 - 8:15 PM	84	15	7	5	52	44	2	6	17	4	6	4	3	6	1
Daily Total	178	44	22	10	107	81	3	22	28	6	12	15	11	11	6

Biggs/Jack Point Park

The total number of people that use Biggs Park and/or Jack Point Park on a weekday is approximately 60 as compared to a weekend where about 140 people visit the two parks a day. Approximately 25% of the users either hike or picnic in Biggs Park (approximately 15 to 25% of the Biggs park users hike the undeveloped trail). The remainder of the users start at Jack Point Park and do not use the path to Biggs. Very few park users arrive without a vehicle. On the days that Biggs/Jack Point Park was observed only person cycled to the park.

On a weekend there is approximately 20 dogs using the park a day and about 70% of them were not on a leash. On a weekday about 10 dogs use the park and only 35% of them were not on a leash. In the early morning (6:00 to 9:00 AM) there were more dogs than people using the park.

On a weekday about 75% of the park users use the trail. The reason this number is low is because of the large number of mill workers that drive across the street to eat lunch in the park. The trail users can be broken down to 98% hikers and 2% joggers. 3% of the total park users are also crabbing.

Ninety percent of the weekend users use the parks trails. Approximately 95% of them hike, 1% bike and 4% of the total park users go crabbing.

Other Observations:

- There is a large number of Jack Point Park users that end up hiking out to the point and walking back along the ferry construction. Perhaps the trail they are accessing the construction site from should be blocked off.
- Large numbers of people are also collecting driftwood and other beach artifacts.

Table 5: Use Patterns of Biggs/Jack Point Park

Biggs/Jack Point Park											
Weekday	**Total Parks**	**Biggs Park**	**No Car**	**Dogs**	**No Leash**	**Use Trail**	**UN Trail**	**Hike**	**Jog**	**Bike**	**Crab**
6:00 - 9:00 AM	1	0	0	1	0	1	0	0	1	0	0
9:45 - 12:45 PM	13	10	0	1	1	5	0	5	0	0	0
1:30 - 4:30 PM	22	0	0	4	2	19	0	19	0	0	2
5:15 - 8:15 PM	25	6	0	5	1	21	4	21	0	0	0
Daily Total	61	16	0	11	4	46	4	45	1	0	2
Weekend	**Total Parks**	**Biggs Park**	**No Car**	**Dogs**	**No Leash**	**Use Trail**	**UN Trail**	**Hike**	**Jog**	**Bike**	**Crab**
6:00 - 9:00 AM	1	1	0	3	3	1	0	1	0	0	0
9:45 - 12:45 PM	41	12	0	9	7	35	2	35	0	0	0
1:30 - 4:30 PM	33	7	0	5	2	33	1	27	0	0	5
5:15 - 8:15 PM	63	10	1	4	3	56	1	55	0	1	0
Daily Total	138	30	1	21	15	125	4	118	0	1	5

Cable Bay Trail

Out of the total time this park was observed, people were only seen using this park from 1:30 to 4:30 PM and 5:15 to 8:15 PM on a weekend. A total of five people used the trail. They were all hiking, had no pets, and drove to the trailhead. The figures are extremely low because the last portion of the trail has not been completed yet.

Table 6: Use Patterns for Cable Bay Trail

Cable Bay Park						
Weekday	**Total Parks**	**No Car**	**Dogs**	**No Leash**	**Use Trail**	**Hike**
6:00 - 9:00 AM	0	0	0	0	0	0
9:45 - 12:45 PM	0	0	0	0	0	0
1:30 - 4:30 PM	0	0	0	0	0	0
5:15 - 8:15 PM	0	0	0	0	0	0
Daily Total	0	0	0	0	0	0
Weekend	**Total Parks**	**No Car**	**Dogs**	**No Leash**	**Use Trail**	**Hike**
6:00 - 9:00 AM	0	0	0	0	0	0
9:45 - 12:45 PM	0	0	0	0	0	0
1:30 - 4:30 PM	2	0	0	0	2	2
5:15 - 8:15 PM	3	0	0	0	3	3
Daily Total	5	0	0	0	5	5

Buttertubs Marsh Sanctuary:

During the week approximately 156 people a day visit the park as compared to the weekend where about 240 individuals visit the park a day. On a weekday about 37% of the park users arrive at the site without a vehicle. There are approximately 19 dogs in the park and about 32% of them are not on a leash. 97% of the park users use the trail and 66% hike, 6% jog, 21% bike and 14% of the total users feed the ducks.

On the weekend approximately 20% of the park users arrive without a vehicle. There are about 19 dogs in the park and they are all on a leash. Of the 93% of the park users that use the trails, 75% hike, 5% jog, 11% bike and 19% of the total users feed the ducks.

Table 7: Use Patterns of Buttertubs Marsh Sanctuary

Buttertubs Marsh									
Weekday	**Total Park**	**No Car**	**Dogs**	**No Leash**	**Use Trail**	**Hike**	**Jog**	**Bike**	**Feed Ducks**
6:00 - 9:00 AM	21	11	7	2	20	15	0	5	1
9:45 - 12:45 PM	28	8	3	1	26	16	3	3	2
1:30 - 4:30 PM	40	11	3	1	35	18	4	8	14
5:15 - 8:15 PM	67	27	6	2	65	48	2	15	5
Daily Total	156	57	19	6	146	97	9	31	22
Weekend	**Total Park**	**No Car**	**Dogs**	**No Leash**	**Use Trail**	**Hike**	**Jog**	**Bike**	**Feed Ducks**
6:00 - 9:00 AM	11	2	2	0	9	6	3	0	2
9:45 - 12:45 PM	46	10	5	0	43	35	0	7	12
1:30 - 4:30 PM	106	18	6	0	95	66	3	12	19
5:15 - 8:15 PM	77	17	6	0	75	60	5	5	12
Daily Total	240	47	19	0	222	167	11	24	45

Morrell Nature Sanctuary

On a weekday approximately 133 people visit the sanctuary compared to the weekend where about 105 people use the park a day. The larger weekday use can be explained by the number of groups (i.e. schools) that book tours and educational packages. About 18% of park users arrive without a vehicle.

There is an average of 17 dogs in the park a day with about 35% of them not on a leash. In the early mornings there are as many dogs as people. Depending on the number of drivers that just drop students off for the environmental programs/hiking day trips the amount of people that use the trail is between 90 to 100%. Between 85 to 90% of the trail users hike, less than 2% jog and about 10% of the users bike. Only about 7% of the hikers use Yew Loop trail.

Table 8: Use Patterns of Morrell Nature Sanctuary

Morrell Nature Sanctuary									
Weekday	**Total Park**	**No Car**	**Dogs**	**No Leash**	**Use Trails**	**Yew Loop**	**Hike**	**Jog**	**Bike**
6:00 - 9:00 AM	5	1	5	1	5	0	5	0	0
9:45 - 12:45 PM	47	8	5	1	43	2	38	0	5
1:30 - 4:30 PM	58	9	4	1	54	3	46	0	7
5:15 - 8:15 PM	23	6	2	2	21	0	18	0	3
Daily Total	133	24	16	5	123	5	107	0	15
Weekend	**Total Park**	**No Car**	**Dogs**	**No Leash**	**Use Trail**	**Yew Loop**	**Hike**	**Jog**	**Bike**
6:00 - 9:00 AM	10	6	6	4	10	0	4	1	5
9:45 - 12:45 PM	37	4	4	1	37	2	35	1	0
1:30 - 4:30 PM	32	6	4	2	32	2	27	0	4
5:15 - 8:15 PM	24	2	4	0	26	7	24	0	2
Daily Total	105	18	18	7	105	11	90	2	11

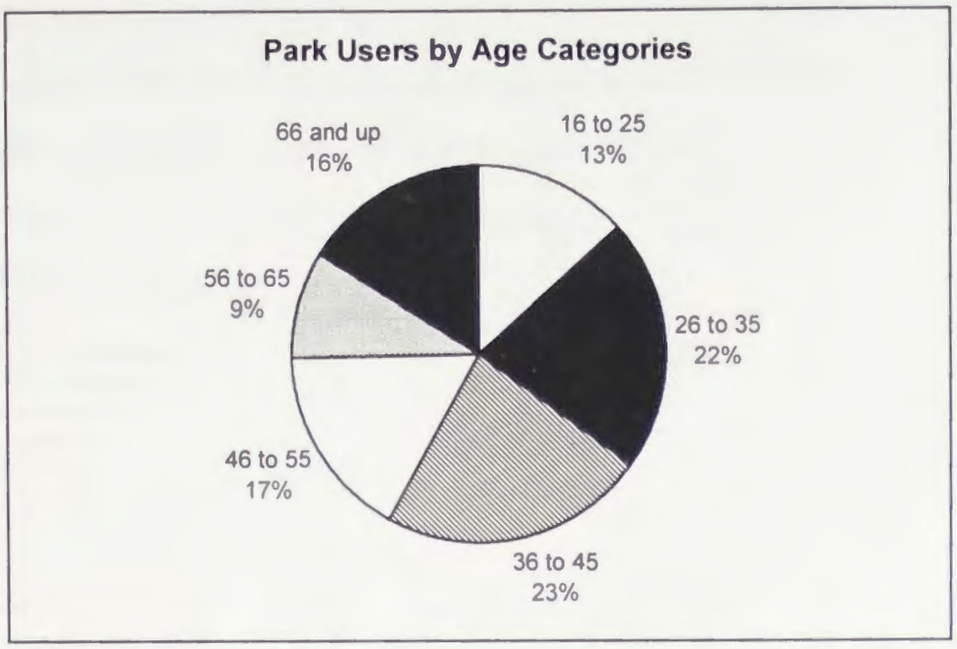
INTERVIEW RESULTS

During the month of August 1996 a series of person to person interviews were completed in 6 of Nanaimo's municipal nature parks involving 269 participants. The surveys were completed at Pipers Lagoon, Divers Lake, Morrell Nature Sanctuary, Westwood Lake, Buttertubs Marsh and Colliery Dam parks. 40 to 50 questionnaires were completed at each park and all time periods (6:00 to 9:00 AM; 9:45 to 12:45 PM; 1:30 to 4:30 PM; and 5:15 to 8:15 PM) were equally represented. 54% of the surveys were completed on weekdays (46% on weekends) and 52% of the respondents were male (48% were female). These results only included trail users during the month of August and do not represent Nanaimo park users as a whole.

When respondents were asked what their main reason was for choosing a particular park trail, convenience was the most frequent response. The relationship of relative distance from a park to home seems to be relevant to park usage. Although some of the parks almost border on two districts it appears that the shorter trails have more "local" use. At Divers Lake 63% of the park users were from the corresponding district. In comparison, Colliery Dam had 58% from the local district; Pipers Lagoon had 45%; Buttertubs Marsh had 38%; Westwood had 35% and Morrell only had 30% of local use. Protection Island district had no respondents. The classification of "other"

park users include those that just live outside of city limits such as Lantzville or Cedar, as well as those who travel through Nanaimo on a regular basis and may be first time visitors.

Figure 6: Park Users by Age Categories



Age categories divisions (figure #6) and groups size results were fairly consistent throughout out the six parks, but the number of dogs and respondents views on no leash zones change substantially. It was discovered that 50% of the respondents were using the trails by themselves, while 32% came in groups of two, 7% came in groups of three, 7% came in groups of four and 4% came in groups larger than four. Overall, there is approximately one dog in a park for every two people. On the days the data was being collected 55% of the park users did not have dogs, 35% brought one dog, 8% had two dogs and 1% had more than two dogs. Overall, 55% of the respondents did not have dogs while individually the parks varied from 46 to 57% with the exception of Buttertubs Marsh in which 71% of the visitors did not have a dog. This could probably be explained by the large number of geese, ducks and pigeons in the area. Buttertubs Marsh trail boarders entirely along a giant pond that is a bird sanctuary. It would be next to impossible to control any dog, especially if it is off a leash, with so many "temptations" near by.

The concept of a no leash zone was supported by 76% of those surveyed overall (17% were opposed and 7% were indifferent) but there was only 60% support in Buttertubs as compared to

Westwood which had 88% of the respondents support. When participants were asked if they would support a no leash zone in the park they were surveyed at, only 50% responded in the affirmative (39% were opposed and 11% were indifferent). When these results were analyzed by individual parks the response rate varied by up to 55%. Only 22% of the respondents would support a no leash zone in Buttertubs Marsh, 40% in Morrell, 40% in Divers Lake, 55% in Pipers, 62% in Colliery Dam and 78% in Westwood Lake Park.

Table 9: Total Types of Activities

Total Types of Activities	
Hiking/Walking	242
Walking Dog	117
Swimming	39
Jogging	33
Cycling	31
Fishing	24
Feeding Ducks	23
Nature Appreciation	14
Bird Watching	11
Picnic	10
Beach Combing	8
Tennis	8
Playground	7
Picking Berries	6
Boating	4
Photography	4
Skating/Skiing	2
Meditation/Relaxation	2
Scenic Viewing	1
Wind Surfing	1
Rock Climbing	1
Baseball	1
Open Field	1

The above table demonstrates how varied the participants responses were when asked to list all the activities they do at this trail. The most consistent reply was walking/hiking (90%), followed by walking the dog(s) (43%), swimming (15%), jogging (12%), and cycling (12%). Respondents were also asked which activity they took part in most frequently. The results of this question were similar to the above table: walking the dog(s) (40%), walking/hiking (36%), jogging (7%), cycling (4%), and feeding the ducks (4%).

Table 10: Reasons for Choosing Park Trail

Reasons for Choosing a Park Trail	
Convenience	164
Lack of other users	35
Design of trail	34
Aesthetics/beauty	17
One of many	15
Natural/Rustic	13
Dogs can run free	13
Vegetation/trees	7
Cool/Shade	7
Ducks/birds	7
Access to water	6
View	6
On Park Map	5
Clean	4
Safety	4
Beach	3
Short cut	3
Uniqueness	2
Remote	2
Fish	2
Variety of trails	2
Nature Center	1
Rock Climb	1
Drive By	1
Volunteer work	1

Respondents were asked to list all the reasons why they choose this trail over other park trails on the day in question. This was an open-ended question and all of the respondent responses are listed in table #10. The five most common responses are as follows: convenience (61%), lack of other users (13%), design of trail (13%), aesthetics/beauty (6%) and that it is just one of the many trails they use (6%). In comparison, when the participants were asked what their main reason was for choosing this trail over other park trails they responded: convenience (52%), design of trail (9%), natural/rustic setting (6%), lack of other users (5%), and that it is one of the many trail they use (4%). The sixth ranked influencing factor is also noteworthy - 4% of the park users surveyed said that the main reason they choose this particular park trail is so that their dog(s) can run free.

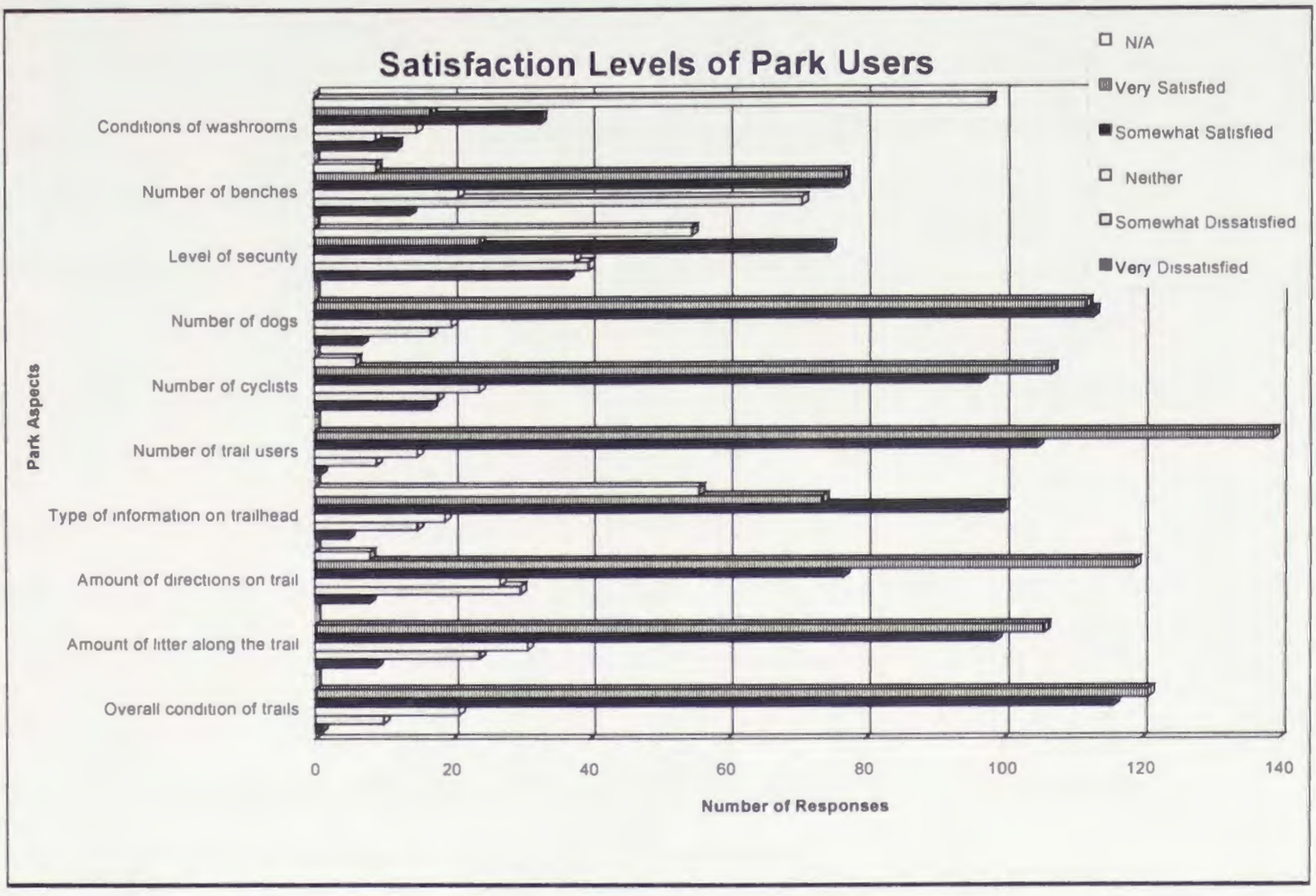
Overall, when the participants were asked if there were any other areas they felt should become a priority for future park development, 39% of them had some suggestions. This figure ranged from 17% at Pipers Lagoon to 65% of Morrell users. There are over 80 different areas that they felt

should be developed into parks, preserved or expanded. The complete list can be found in the Appendices, but the top fourteen areas are listed below.

- (16) Westwood Ridges
- (15) more in the North End (Hammond Bay, Rutherford Area)
- (14) Colliery Dam protected from highway and expanded on other side (expanded/protected in general)
- (14) Mt. Benson (includes Benson Creek)
- (10) Linley Valley
- (5) Green Lake
- (5) BC Hydro ROW (include bike trail)
- (4) more bike paths/trails through the city of Nanaimo (on and off road)
- (4) military base
- (4) Duke Point (can include expanding Cable Bay)
- (2) expand waterfront and have rollerblade and cycling area along Sea Wall (at least one lane)
- (2) Trail through Rutherford where creek is near Quilted Duck
- (2) Brannen Lake, develop trail and expand beach
- (2) Park facilities are under utilized, have larger parks (not mini parks or tot lots)

The satisfaction levels of the park users were measured by asking the participants to rate how they felt about different aspects of the park. A response of one would mean they were very dissatisfied and a response of five would mean they were very satisfied. Participants could also respond not applicable if they did not know or did not want to answer that particular question.

Figure 7: Satisfaction Levels of Park Users



When participants (not including those from Divers Lake or Buttertubs Marsh) were asked to rate the condition of the washrooms it was discovered that 53% of them had never even used the washrooms or port-a-potties. This was the highest not applicable response rate of the entire questionnaire and there were only 185 participants that answered this question as compared to 269 in the remainder of the survey. 27% of the participants overall said that they were either very or somewhat satisfied with the condition of the washrooms.

The largest amount of dissatisfied (either somewhat or very) responses (32%) occurred when the participants were asked to rate the number of benches. Only 57% of the respondents said they were either very or somewhat satisfied with the number of benches along the park trail. When participants were asked to rate the level of security, including police patrols and security visits, there was a mixed response and it lead to the lowest satisfaction level (37%) of any of the questions.

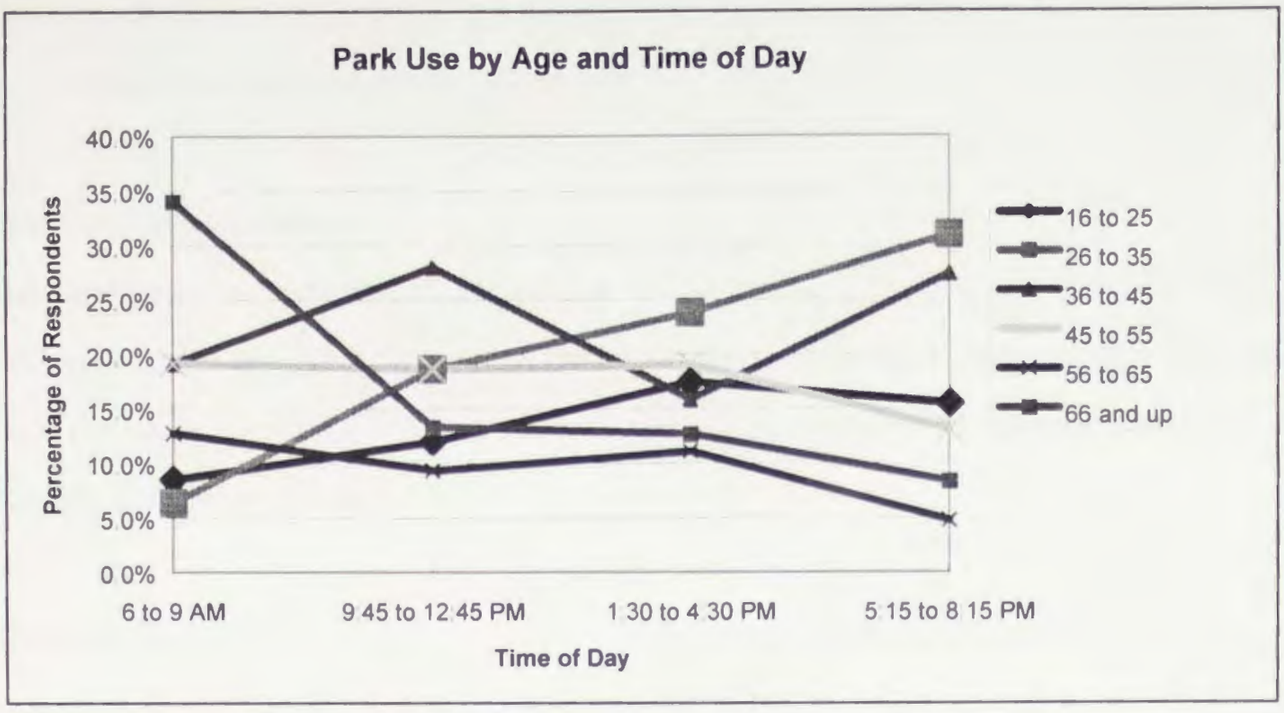
Of those surveyed, 65% were either very or somewhat satisfied with the type of information provided on the trailhead and 21% had never read it before. 76% were satisfied with the amount of litter on the trail. About 76% of the participants were satisfied with the number of cyclist on the trails and 84% were satisfied with the number of dogs along the trailway. Approximately 88% of the park visitors interviewed were satisfied (very of somewhat) with the condition of the trails overall. The highest satisfaction level was with the number of trail users in which 91% of the participants were satisfied. For more detailed information on satisfaction levels refer to figure # 7.

Later in the survey, participants were asked to rate the extent to which they agreed or disagreed with a series of statements. A response of one meant that they strongly disagreed while a response of five meant that they strongly agreed.

Overall, when participants were asked if they feel safe along the trail 83% responded in the affirmative (either somewhat or strongly agree). 70% said they felt safe at Colliery Dam in comparison to Buttertubs (78%), Westwood (84%), Morrell (84%), Divers (88%), and Pipers (95%). When participants were asked if they were concerned about seeing bears, 67% said no. The next question asked participants if they felt vandalism was a major concern; 38% thought it was. The results vary greatly when they are compared amongst the individual parks: 74% thought it was a problem at Colliery, followed by Westwood (35%), Morrell (30%), Pipers (24%), Divers (23%) and Buttertubs (20%).

Overall, 26% of the participants thought weather conditions affected their use of the park. Approximately 10% wanted more parking: responses ranged from Morrell (7%). Pipers (7%), Divers (10%), Buttertubs (13%), Colliery (16%) to Westwood (22%). The percentage of park users that wanted toilet facilities along the trails also varied from park to park. Eighty percent of those survey at Divers Lake wanted toilets, followed by: Buttertubs (64%), Colliery (60%), Westwood (41%), Morrell (19%) and Pipers (12%).

Figure 8: Park Use by Age and Time of Day



When the survey results were analyzed by "time of day", there were no consistent results observed throughout the six park sites. However, it might be noteworthy to look at the use patterns of various age categories throughout the day. The 66 and over category is busiest in the early morning and their use drops off drastically through out the day. Forty-five to 65 years olds appear to use the park fairly constantly through out the day with their attendance dropping off slightly towards the end of the day. Users between the age of 36 to 45 are the most sporadic users and tend to be out mostly in the late morning (9:45-12:45 PM) and in the evening (5:15-8:15 PM). The parks get used gradually more and more through out the day by 26 to 35 year olds. Sixteen to 25 year olds use the park though out the day and frequent the park most often during the afternoon. For more specific information on time of day corresponded to age categories refer to figure # 8.

Table 11: Park Visitation Rates

How often do you use the trail? (%)	Morrell	Pipers	Divers	Buttertubs	Westwood	Colliery	Total %
At least three times a week.	47	44	60	44	67	68	55
At least once a week.	12	14	10	9	10	16	12
At least two times a month.	19	14	15	23	6	10	14
Less than once a month.	11	14	12	24	14	6	14
This is your first time.	11	14	3	0	3	0	5

Site specific results on future park development, trail user conflicts and other comments and concerns that were produced during the interview phase are summarized below. Please see appendices 4 to 7 for more detailed information.

Morrell Nature Sanctuary

Morrell Nature Sanctuary had 43 respondents who participated in the survey and 58% of those surveyed are regular users that frequent the park at least once a week. Approximately 12% were first time users (see Table 11) and 23% of the participants knew where the Morrell Nature Sanctuary office was located.

Respondents were asked what they would like to see added or taken out of the park and if they had any other concerns or suggestions. The patrons surveyed in this park had the least number of suggestions (14 items) of the six sites survey. In fact two people suggested that the "park should be left alone and kept as is".

Approximately 21% of Morrell park users claimed to have had other trail users affect their enjoyment but few could remember how or did not want to specify. The were five individuals (7% of those surveyed) who did expand on this question and they complained about dogs being out of control, groups that were too large and smokers in the park.

Westwood Lake Park

Westwood Lake Park had 49 participants complete the survey. As you can see from Table 11, 78% of the users estimated that they use the park at least once a week and there was only one (2%) person that was a first time user.

When respondents at Westwood Lake were asked for suggestions they produced an exhaustive list (33 items). Their primary concerns were that there were (1) too many roots along the trail and it needs more wood chips and (2) that there was a need for feces stations. The construction of a

playground and picnic area with tables were the areas respondents felt should be concentrated on for future park development along with the addition of a few more garage cans.

Approximately 35% of Westwood park users have had other trail users affect their enjoyment. Horses and cyclists were the primary complaints.

Buttertubs Marsh

Forty-five individuals were surveyed in Buttertubs Marsh and 53% of them were regular users who used the park a minimum of once a week (see Table 11 for more specific information).

More garbage cans (20%) and a feces station (18%) were the two main items that respondents said that would they like to see added to this park. Other major concerns mentioned by Buttertubs Marsh users was the shaking of eggs to control the geese population, the new fence that is restricting use and worries about more development in the area.

Of the 11% of Buttertubs Marsh users who have had other trail users affect their enjoyment seven respondents gave examples. Cyclists using the trail was the only conflict noted more than once. This park had the lowest percentage of user conflicts.

Colliery Dam Park

Colliery Dam Park had 50 users who participated in the survey and 84% of them used the park at least once a week. No first time users were interviewed in this park. Table 11 provides more details on individual park visitation rates.

When asked about future park developments respondents at Colliery replied with a substantial list of suggestions but the construction of a playground and feces station were the main two. Respondents also asked for more garbage cans and some picnic tables. Approximately 52% of Colliery Dam Park users have had other trail users affect their enjoyment. This park had the

largest number of complaints regarding other trail users. The number of hookers in the park and large groups of cyclists were the primary complaints. These concerns were closely followed by conflicts with flashers, unruly kids/teens, drunks in the park at night, loose dogs, and the amount of drugs and used needles found in the park.

Diver Lake Park

Diver Lake Park had 40 park users participate in this survey and 70% of them are regular users that use the park at least once a week.

Twenty percent of the users thought the park could use a washroom. Two other suggestions for additions were to improve and expand the playground and to install a feces station. Diver Lake users were also asked to compile a list other concerns or suggestions they might have for the park. This included cleaning up after the ducks, developing a trail around the lake, re-doing the map of the fitness circuit, cleaning up the milfoil and fixing up the beach so its fit for swimming.

The only conflict mentioned at least twice by Diver Lake users was "unresponsible dog owners whose dogs were unleashed and out of control". Overall fifteen percent of Diver Lake users have had other trail users effect their enjoyment of the park.

Pipers Lagoon Park

Pipers Lagoon Park had 42 individuals participate in the survey and 57% of them use the park at least once a week. Pipers had the largest number of first time visitors (14%). This can probably be explained by the length of the trail, its location and proximity to the ocean. This park is just off Hammond Bay Rd. which receives lots of traffic and offers spectacular views through out the entire park.

Pipers Lagoon respondents were asked for suggestions regarding park development. The number one request was to make the chemical toilets "nicer". This was followed by requests for

more picnic tables and garbage cans. Piper Lagoon users had two other suggestions--(1) develop a no leash zone (maybe from 8 to 10 PM or on other side of rock bluff) and, (2) pave the trail. Two individuals were also concerned about "the major increase in use this park has had in last 8 years".

Approximately 12% of Piper's Lagoon users have had their enjoyment of the park affected by other trail users. For more specific examples please refer to appendix 7.

SUMMARY OF FOCUS GROUP RESULTS

The following three focus groups took place in December 1996. A wealth of information was gathered from all of the meetings but the Tuesday Hikers group supplied the most in-depth data. Scheduling and location may have played a role in this result. Both the Bastion Cycle and Thursday Hikers focus sessions were run just before they went out on their weekly excursions. This caused the participants to be in a "hurry" and the atmosphere seemed rushed. These meetings both lasted less than 45 minutes. The Tuesday Hikers on the other hand was run outdoors mid-hike and the information was gathered in a free flowing atmosphere. This meeting lasted over an hour and fifteen minutes and the participants appeared more relaxed and were more interested in the focus session.

Bastion Cycle

Bastion Cycle runs a bike club that goes on weekly rides every Monday. They meet at various times and sites and are usually led by the store owner. The size of the group also varies, in the summer there are 15 to 20 members, in the off season there is quite a bit less. Six members participated in the focus group. It included a new comer who was only on his second ride with the group, and five other regulars. The club advertises through the store itself and puts out flyers in the summer. It is a casual group. To find out where the group is going each week you can call into the store and find out in advance. The leader has ranked the difficulty of the rides by green

circles for easy rides, blue squares for moderate rides, and black diamonds for the most difficult and technical rides.

Although the size of the group greatly decreased in the winter, weather does not play a role in their use pattern. They ride rain, shine or snow. They use a variety of trails, most of them are not on city park property, but they do use Westwood Lake, Colliery Dam and Morrell Nature Sanctuary. These are mostly used as access points to other longer trails because their ride usually last a minimum of 2 to 2.5 hours and can encompass more than 40 kilometers. When choosing places to ride they look for rougher and "less groomed trails", with "lots of vertical". "The fewer people I see along the trail the happier I am". It also has to have lots of variety in terrain, switchbacks, multiple routes and be of an adequate length or be able to "hook up" to more trails.

They feel that park maintenance is basically adequate and wish they would do less maintenance on some trails or create more bike trails. Some litter in the bigger parks is a bit of a concern. They believe that Mt. Benson should be set aside as a Mt. Bike park and that other areas such as Nanaimo Lakes Rd. area, Westwood ridges, Harewood Plains (Abass trail), Dumont Rd, Linley Valley and the area behind Rutherford should be set aside for future park preservation. The group added that they have " right to ride somewhere and if we get kicked off official park trails then some area should be set aside for us to ride that won't be logged".

When the topic of a no-leash zone first surfaced one of the riders told a story about being bitten by a Rottweiler while jogging around Westwood Lake. He was against the concept of a no-leash zone. Then the leader of the group said that he believes that no user group should ever be excluded from any park--there should just be more courtesy regulating various user groups. Dogs should be under control, not necessarily on a leash and that they should either pick up after their dog or at least "flick it off the trail". Individual problems should be dealt with as they arise, and they ask for "less regulations". They believe that the parks are already over-regulated. The entire group agreed with that statement. Another person brought up horse use in the park and said that

they are hard on the trail and leave droppings. He asked if there was anyway to keep the droppings off the trail. He then added that he "rarely" sees horses on the trails he rides and if they didn't leave remains he wouldn't care if he "saw more". As long as bikers, horseback riders, and dog owners are courteous there is "no problem". But there needs to be less dog and horse excrement left on the trails than presently. They also felt that there should be more multi-use trails and the NewCastle Island trails should all be multi-use.

The group basically felt safe along the trails and believed that the user should beware. One individual added that the Parks Department can always "add a little blurb about safety on trailheads if they wanted to". With the exception of the lack of bike trails they were happy with the park facilities overall and liked the fact that most of the public is unaware of some of their favorite spots. Most of the group also felt that most of the official park trails were under utilized. For safety and maintenance reasons they would also like to see the trails given official names that would be recognized by everyone (hikers, bikers and the City of Nanaimo use different ones). The trail system could have signage similar to Morrell Sanctuary but is needed on a larger scale. The two other suggestions for park improvements they pointed out were that all of the trails need more water/erosion bars and that turnstyles should have signs that say they are there to prevent motorized use-not mountain bikers (it might prolong their life).

Tuesday Hikers

Tuesday Hikers originated from the Thursday Hiking group about 4 to 5 years ago. One individual could not make the Thursday group and wanted less strenuous hikes. They contacted the Parks and Recreation Department and asked how to start a club. They avoided becoming an official club for liability reasons, but the parks department does advertise the group in their quarterly brochure and their weekly walks are advertised in the local paper (meeting sites and hiking routes). They meet at the Bowen Recreation Center and carpool to the various locations rain or shine every week with the exception of statutory holidays. The Tuesday Hikers have carpool rates that figure out how much passengers owe the drivers. The cost is broken down by the distance

driven and the number of passengers. They are extremely organized and take turns leading the hikes. It is decided a week in advance what hike they will do next week and their official contact person is notified. This group also makes new hikers' sign a waiver before they go out. They provide a brochure that discusses mileage, meeting arrangements, head counts, what to wear and bring along with you on the hike (bright clothing, lunch, etc.), and it also asks the hikers to not bring dogs, put safety first, and "walk gently in the wilderness".

Their group varies in size from 15 to 30 participants. There were 29 people on this hike and 14 people volunteered to participate in this particular focus group. They use a wide variety of trails outside city limits but they also hike Westwood Lake, Morrell Nature Sanctuary and Cable Bay. They like trails that have a varied terrain, nice scenery and are "ungroomed" and rugged. They also want trails to have open parking areas and be about 3-4 hours in length with a network of trails so they can alter their route.

For the most part they are happy with the present level of park maintenance. Although they felt that most of the parks could use more cedar chips on the trails. They feel fines should be increased and enforced to help combat litter. They think there is inadequate information available on Nanaimo's parks. They said that Ladysmith puts out a nice brochure, and asks "why can't Nanaimo?". Maps should be made available at the tourist bureau of all trails and lakes around the city. They also felt that more signs about plants, trees and cougars etc. would be nice at the entrance or around the trail. This would make their hikes more educational and generally just more interesting.

Safety is a major concern for them in the parks. They worry about their cars when the go out each time. Some believe that more police patrols might help, others feel stiffer penalties and "entrapment" (need a crack down on vandalism) is the way to go. It was also suggested that "opening up" parking lots more might help—i.e. improved visibility at Colliery and Morrell. They

also added that three out of five of their cars were broken into on the parkway, and the whole thing seems almost hopeless.

When asked for input on existing parks they thought that more washrooms around Westwood and Morrell would be nice because there are so many users. They also would like to see Mt. Benson Rd. opened up and stated that Nanaimo needs more natural areas as a whole. Tuesday Hikers believe that Linley Valley along with Mt. Benson should not be developed and should become a park. Bigger parks should be built and the "5% of useless land" that the developer has to set a side is a "joke". They also felt that the abandoned and existing rail lines are excellent trails for both commuters and recreationalists. Trails should be more interconnecting and act as a network. Rollerblading and cycling should also be promoted in the city for transportation and recreation—more trails or areas designed specifically for this user group is necessary. The Tuesday Hikers also suggested that an area for motor cross and ATV use be developed. This will help keep them off trails that can not handle that sort of "use and abuse".
Overall the Tuesday Hikers felt that horses should have there own trails that are designed to sustain that type of use. Horse feces were also a major concern of multiple-use trails. On the other hand they felt that cyclists were hard on the trail but should be permitted in most parks. Their main concern with cyclists is courtesy (this was mentioned several times). They should design trail right of ways and make bells on bikes mandatory. Education is also important—target the school children and business etc. They suggested that there should be fines for cyclists without bells. Bikes would also be well suited for using trails along train tracks.

This group feels that dogs in parks are great, as long as they are controlled and do not leave feces on the trail. They thought that no leash zones in park are fine, but that they would probably not use them themselves. However, they did feel that no leash zones might keep "uncourteous dog owners that do not pick up after their dog" off other "hiking" trails. More feces stations are also needed. Education should play a vital role--maybe dog parks would help in this area.

Tuesday Hikers wanted to emphasis that dogs on leashes are not necessarily under control--they can still lunge and intimidate.

Thursday Hikers

The Thursday Hikers are a substantially smaller group with 5 to 10 people usually going on the hikes. When asked about the history of the group they were uncertain; one person thought they originated from the Tuesday Hikers. They said that none of them were among the original members and that they had only been members for a couple of years. They also receive advertising from the Parks and Recreation Department but are less organized. Their weekly hikes are sometimes published in the paper but had no current contact person. Since the group is smaller, they usually discuss what hikes to do as a group, but they still take turns being the official leader for that particular hike. This group is composed mostly of seniors and mature adults. Some members of the Thursday Hikers also go out with the Tuesday group, but none of the previously interviewed individuals participated in the second focus group. There were five participants in the Thursday Hikers focus group.

Weather does not play a major role in the Thursday Hikers use patterns. If the weather is bad they tend to stop for coffee before and after the hike. In fact, it was snowing when they started out on their hike after this focus group. They added that a few of their members might not come if the weather is poor but they themselves got out no matter what the conditions, except for Christmas Day. They have hiked most trails from Victoria to Courtney (Mt. Finilason, Mt. Aerosmith, Horn Lake). This group looks for longer and more difficult trails than the Tuesday group. They meet at 8:00am when they do local hikes, other wise they meet at 6:30 am. They usually go out for about 8 hours. When they do local hikes they use Morrell and Westwood Lake as connectors to Westwood Ridges and Mt. Benson. They also enjoy the newest city trail, Cable Bay.

They feel that for a city this size with limited funding from the government they are extremely happy with the amount and conditions of Nanaimo's parks. Since they enjoy and utilize longer

hiking trails if there were anyway to incorporate more trails in the city limits they would support the idea (i.e. Mt. Benson). They believe that acquiring more parkland would have to be done by some "miracle". Their only suggestion for park improvement was the completion of the Morden Colliery trail (from Wheat Chief to the boat harbor). One participant also said he would like to see more parks in the north end. This statement was agreed upon by all members.

Members of the group also mentioned that they would like to see more security patrols in the parks. They are very worried not only about break-ins, but about some of the "weirdoes in the Bowen Park bushes" and some of the other parks. The subject of "break-ins" came up several times. They believe that being prepared for bears or cougars in the wilderness is just common sense.

One member of the group said he did not like cyclists in the park at all, but later agreed with other members that it would not be fair to kick them out. They were not concerned about the courtesy of cyclists so much as they were worried about them destroying the trail(s). But they did agreed that cyclists need somewhere to go and that user groups should not be segregated. Horses however did not received such a favorable outlook. They did not like horse feces and thought that horses should be kept on wider more compacted trails (i.e. BC Hydro ROW). They suggested that horses should share the same trails as motor bikes and ATV's since they need the same type of compacted trail construction and are "designed to handle that kind of strain".

They did not lean in either direction on the subject of a no leash zone. They felt that dogs should be under control and not leave feces in the park. It was brought up that just because a dog is on a leash it does not mean it is under control. Maybe stricter laws (or just enforce the existing ones) on dog feces should be enacted. They said that if they had dogs they would not take them to a no leash park because people tend not to pick up after their dogs, in "those kinds of parks". However, they thought it might keep inconsiderate dog owners away from other parks. All that really counts to the Thursday Hikers is that no dog remains are left on the trail and that the dogs don't lunge or intimidate other park users.

DISCUSSION AND RECOMMONDATIONS

The four objectives of this research have been meet. A recreation inventory of the eight urban nature trails have been completed and a greater understanding of the physical aspects of each park have been gained. Present trail users use patterns and attitudes have been documented and recommendations for future park development and suggestions for reducing multiple use conflicts are listed below.

Throughout this research there has been one key observation that has been demonstrated at all four phases of the research from the recreation inventories to the observational studies, interviews and focus groups. I stated earlier that each urban park is unique. I have realized not only is each park is unique, each park has its own unique set of park users. Colliery Dam Park users are concerned about hookers, flashers, unruly teens, drunks, loose dogs, and the amount of drugs and used needles found in the park. Morrell Nature Sanctuary is literally across the street from Colliery Dam and their only concern is the occasional bear. Westwood Lake Park users want more development like a playground and feces station where as the adjacent park users, in Morrell Nature Sanctuary, wanted the park left as is. At Biggs/Jack Point Park 70% of users ignore the bylaw and have their dogs off leash, at Buttertubs Marsh only 30% of dogs are not leashed. The research question could have been do park users tailor their behaviors to the site (kept dogs on leash because of all the ducks) or do they pick the site based on their needs (take dog to park with limited bylaw enforcement capabilities).

Based on the information gathered during the recreation inventories, observational surveys, interviews and focus groups a series of general and site specific recommendation for the City of Nanaimo Parks Department were developed:

GENERAL RECOMMENDATIONS:

(1) Develop an off-leash program in several parks. On average there is one dog for every two people in Nanaimo's parks. After hiking, dog walking was the most popular activity (43%) taking place in parks. Of those surveyed, 76% of present park users supported the concept of a no-leash zone.

(2) Develop regulations for off-leash zones. This should require dog owners to have voice control of their dogs and clean up after their pets. Violators should be fined and feces stations should be erected in all off-leash parks.

(3) Increase by-law enforcement. Over 35% of dog owners are violating existing by-laws in the parks studied.

(4) Improve existing signage in parks. Signage in most of the parks needs to be updated, replaced or amalgamated. Trailheads and directional signage should also be standardized.

(5) Develop more urban nature trails in the Nanaimo area. The four areas recommended for future park development/acquisition are: Mt. Benson, Westwood Ridges, Linley Valley and general park development in the north end of Nanaimo (Hammond Bay or Rutherford area)

(6) Promote trails that are catered to cyclists and horseback riders.

(7) Conduct more research on those urban nature trail sites not included in this study.

(8) Develop a trail courtesy program. This program should be promoted in local parks and elementary schools.

SITE SPECIFIC RECOMMENDATIONS:

Westwood Lake Park

(1) Develop an off-leash program in Westwood Lake Park. Presently 60-70 dogs visit Westwood Lake Park a day and 58% of them are not on leash. 78% of those surveyed supported a no leash zone at Westwood Lake Park. The off-leash program should be

confined to the trail and designated during early morning and evening hours. Dogs will still not be permitted on the beach or to run free in the remainder of the park.

(2) Increase security and by-law patrols in Westwood Lake Park. More police patrols are needed in the evening time to discourage alcohol consumption, enforce noise control by-laws and decrease vandalism. 35% of those surveyed thought vandalism was a concern. Due to the large number of by-law infractions including dogs on the beach (46% of dogs) and off-leash animals more enforcement is needed. With the adoption of a new off-leash program it will be especially important to increase by-law patrols to ensure the new program is adhered to.

(3) Minor trail improvements are needed. See study area for more information.

(4) Update and replace some of the existing signage. The trailhead is worn and needs replacing and some of the trail markers are missing. The signs at the trailhead should also be amalgamated. See study area for more information.

(5) Install two outhouses along the park trail. 41% of respondents and one focus group thought washrooms along the trail would improve their satisfaction level of this park.

(6) Consider developing a playground and picnic area.

(7) Consider expanding the existing parking lot when feasible. 22% of those surveyed felt that more parking at Westwood Lake Park was needed. 500-700 people visit this park a day and during the busiest time of day, the evening, parking is limited.

Colliery Dam Park

(1) Develop an off-leash program in Colliery Dam Park. Approximately 50 dogs visit Colliery Dam Park a day and 63% of them are not on a leash. 62% of those surveyed supported a no leash zone at Colliery Dam Park. The off-leash program should be confined to either the upper or lower lake area and designated during early morning and evening hours. Dogs will still not be permitted on the beach or to run free in the remainder of the park. One option is to fence an area in and provide a feces station so that the off-leash program can be run throughout the entire day.

(2) Increase security and by-law patrols in Colliery Dam Park. More police patrols are needed to discourage vandalism and alcohol and drug use. 74% of respondents were concerned about vandalism – the highest of all the parks. Colliery Dam Park users also felt the least safe (only 70% felt safe) and had the largest number of safety concerns including vandalism, hookers, flashers, drunks and the large number of used needles found in the park. Due to the large number of by-law infraction including dogs on the beach (30% of dogs) and off-leash animals more by-law enforcement is needed. With the adoption of a new off-leash program it will be especially important to increase by-law patrols to ensure the new program is adhered to.

(3) Minor trail improvements and trail rerouting are needed. See study area for more information.

(4) Update and install some new signage. The trails diverge on many occasions and there needs to be signposts or maps to indicate where each trail leads. Other signs are extremely worn and need replacing. See study area for more information.

(5) Build a fishing platform. Trail degradation is happening along the lower lake where little trails are developing off the main trail in order for people fishing to access the lake. One of these accesses should be turned in to an official trail and have a landing put in. This would help to preserve the trail integrity so that the main trail would not be eroded. This may also help to eliminate some of the conflicts between the swimmers and people fishing.

(6) Post and extend washroom hours. 60% of those surveyed wanted more washroom facilities. Extending the hours the washroom is open or placing a chemical toilet in the parking lot may meet this need.

(7) Consider building a playground and installing more picnic tables and garbage cans.

(8) Consider expanding the existing parking lot when feasible. 16% of those surveyed felt that more parking at Colliery Dam Park was needed. Approximately 280 people visit this park daily and parking is limited even though 56% of park users arrive by foot.

Cable Bay Trail

(1) Install new signage. See study area for more information.

(2) Place a garbage can at the trailhead.

(3) Collect more data on this trail now that it has been completed.

Biggs/Jack Point Park

(1) Install new signage. See study area for more information.

(2) Collect more data on this trail now that road access has improved. When the observational studies were completed there were more dogs in the park then people. If this is still the case it may be worthwhile investigating the development of an early morning off-leash program.

Pipers Lagoon Park

(1) Develop an off-leash program in Pipers Lagoon Park. Approximately 45 dogs visit the park a day and 50% of them are not on a leash. 55% of those surveyed supported a no leash zone at Pipers Lagoon Park. The off-leash program should be confined to either the north side of the trail (away from the busy beach area) or the lagoon portion of the trail and designated during early morning and evening hours. Dogs will still not be permitted on the beach or to run free in the remainder of the park.

(2) Minor trail improvements and trail rerouting are needed. See study area for more information.

(3) Increase security and by-law patrols in Pipers Lagoon Park. More police patrols are needed in the evening time to discourage alcohol consumption. The front gates get locked every evening which is an excellent safety measure, but it is presently attracting large teen groups later in the evening. They are scaring away some park users and leaving behind cigarette butts and beer cans in the morning. With the adoption of a new off-leash program it will be important to increase by-law patrols to ensure the program is adhered to.

(4) Improve washroom facility. Over 290 people visit this park on a daily basis and 2 chemical toilets are not sufficient. "Nicer toilets" was the number one request by park users.

(5) Consider installing more picnic tables and garbage cans.

Morrell Nature Sanctuary

(1) Minor trail improvements and added directional signage are needed. See study area for more information.

(2) Increase security patrols in Morrell Nature Sanctuary. More police patrols are needed to discourage vandalism. 30% of respondents and 2 focus groups felt that vandalism and theft was a concern in this park.

Buttertubs Marsh

(1) Minor trail improvements and added signage are needed. See study area for more information.

(2) Install more garbage cans and a feces station. 20% of respondents wanted more garbage cans and 18% of respondents wanted a feces station. The request for a feces station is surprising since this park had the least number of dogs in comparison to the number of park users. It also had the highest number of dogs on leashes.

(3) Consider expanding the existing parking lot when feasible. 13% of those surveyed felt that more parking at Buttertubs Marsh was needed. Approximately 200 people visit this park daily and during the afternoon and early evening the parking lot is full.

(4) Install two chemical toilets or a washroom facility. 64% of those surveyed wanted more toilet facilities along the trail.

Divers Lake Park

(1) Minor trail improvements and added signage are needed. See study area for more information.

(2) Increase by-law patrols in Divers Lake Park Due to the large number of by-law infraction including dogs on the beach and off-leash animals (40% of dogs) more by-law enforcement is needed

(3) Install a chemical toilet or a washroom facility This park had the highest request (80%) for washroom facilities

(4) Consider expanding the existing playground and adding a feces station

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Appendices

Site Observational Studies

Site:

Date:

Day of the Week:

Time Period:

Weather Conditons:

Number of people that use the park:	Number of people that use the trail:

Number of people that stop to read a sign:	Number of dogs:
Number of people that use the garbage cans:	Number of dogs with no leash:

How many people are:		Fishing:
Hiking:		Biking:
		Horseback Riding:
Jogging:		In a Wheelchair:
Boating (non-motor):	Motorized:	On A Motorized Vehicle:
Swimming:		Feeding Ducks:

How many people arrived at site without a vehicle:	Site specific:
Witnessed user conflicts:	

Nanaimo's Urban Trails: A User Study

Date: **Time:**

Day of the week: **Weather:**

Number of people in group: _____

Sex: M F

Q01. **a)** What activities do you use this trail for?

1. Hiking/walking
2. Jogging
3. Cycling
4. Horseback riding
5. Scenic viewing
6. Nature appreciation
7. Walking dog
8. Other, please describe_____

b) Is there any other activities you use this trail for?

c) What one activity do you do most often on this trail?

1. 2. 3. 4. 5. 6. 7. 8.

Q02. **a)** Why did you choose this trail over other park trails today?

1. Convenience of location
2. Design of trail (i.e. length or difficulty)
3. Lack of other users
4. Access to the water
5. Other facilities available in the park (i.e. beach or playground)
6. playground
7. tennis courts
8. beach
9. playfield
10. nature center
11. other _____
12. Other, please explain_____

b) Is there any other reasons why you choose this trail?

c) What is the main reason you choose this trail over other park trails?

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12.

Q03. How often do you use this trail?

1 At least three times a week
2 At least once a week
3 At least two times a month
4 Less than once a month
5 This is your first time

Q04. Please indicate how satisfied you were with the following aspects of your experience in this park
1=VERY DISSATISFIED 5-VERY SATISFIED and NA-NOT APPLICABLE

	Very Dissatisfied	Somewhat Dissatisfied	Neither	Somewhat Satisfied	Very Satisfied	N/A
A Overall condition of trails	1	2	3	4	5	NA
B Amount of litter along the trail	1	2	3	4	5	NA
C Amount of directions provided along the trail	1	2	3	4	5	NA
D Type of information provided at the trailhead	1	2	3	4	5	NA
E Amount of parking provided	1	2	3	4	5	NA
F Number of trail users	1	2	3	4	5	NA
G Number of cyclists using the trail	1	2	3	4	5	NA
H Number of dogs along the trail	1	2	3	4	5	NA
I Level of security (police patrols and security visits	1	2	3	4	5	NA
J Number of benches along the trail	1	2	3	4	5	NA
K Overall conditions of the washrooms	1	2	3	4	5	NA

Q05. How do you feel about the present number of Nanaimo's nature trails?

1 Too many
2 Too few
3 About right

Q06. Overall would you like to see more or less development in this park?

a) MORE - What would you like to see added to the park?
b) LESS - What would you like to see taken out of the park?

c) Is there anything else?

Morrell: Can you tell me where the Morrell Administration office is located?

Incorrect Correct

Biggs & Jack Point: Which sections of trail do you use?

1. Jack Point trail
2. Biggs trail leading to Jack Point
3. Both Jack Point and Biggs trail
4. 300 meters crushed limestone section of Biggs that leads to the boardwalk
5. The undeveloped trail from Biggs Park heading north.

Q07. Please indicate the extent to which you agree or disagree with the following statements. 1=STRONGLY DISAGREE, and 5=STRONGLY AGREE.

	Strongly Disagree	Somewhat Disagree	Neither	Somewhat Agree	Strongly Agree
A I feel safe along the trail	1	2	3	4	5
B Seeing bears is not a concern	1	2	3	4	5
C More parking area should be developed	1	2	3	4	5
D The number of trail users did not affect my enjoyment of the park	1	2	3	4	5
E Weather conditions have an effect on my use of the trail	1	2	3	4	5
F Dogs along the trail do not affect my enjoyment of the park	1	2	3	4	5
G Washroom or toilet facilities need to be developed along the trail or in the park	1	2	3	4	5
H Vandalism is a major concern in this park	1	2	3	4	5
I Cyclists along the trail do not affect my enjoyment of this park	1	2	3	4	5
J There is enough directional signage throughout the park	1	2	3	4	5

A no leash zone is an area that dogs are permitted to run free. It is an area where no leashes are required. This can include feces stations, fenced in grass areas or sections of trail.

Q08 **a)** In general, do you support, oppose or are indifferent to the concept of a no leash zone?

1. Support
2. Oppose
3. Indifferent

b) What about a no leash zone in this park? Would you support, oppose or be indifferent to a no leash zone in this park?

1. Support
2. Oppose
3. Indifferent

Q09. Have other trail users behaviours or actions ever affected your enjoyment of this park?

YES NO

If yes, how.

_____

_____

_____

_____

Q10. Which district do you live in?

1. Chase River/Cinnabar
2. City Center
3. Departure Bay/Long Lake
4. Green Lake/Diver Lake
5. Hammond Bay
6. Harewood
7. Northfield/Terminal
8. Protection Island
9. Westwood Lake
10. Non-resident. Where do you live? _____ (city or town)

Q11. Which age category do you belong to?

1. 16 to 25
2. 26 to 35
3. 36 to 45
4. 46 to 55
5. 56 to 65
6. 66 and up

Q12. Are there any other concerns or suggestions you have with regards to this park trail.

YES NO

If so please describe.

_____

_____

_____

Q13. Are there any other areas you feel should become a priority for furture park trail development?

_____

_____

_____

FOCUS GROUP QUESTIONS

1) I was wondering if you could tell me a little bit about the history of your group?
- When did your group start?
- How did it develop?
- What is average size of your group?

2) How do weather conditions effect your use of the park trails?

3) What park trails do you use? And why?
- Where do you normally go?
- Why do you choose these particular locations?
- Are there any other activities you do or facilities you use in the park?

4) How do you feel about the present level of park maintenance? Including,
- Condition of trails
- Amount of litter
- Cleanliness of washrooms

5) How do you feel about the present park facilities? Including
- Signage, trailheads of trails
- Number and location of benches and other facilities (i.e. water fountain)
- Parking
- Washrooms, are there enough?, Do we need more along the trails? Where?

6) Do you feel there is enough information available on Nanaimo's parks?

7) What safety issues or concerns do you have?
- Level of security (including police patrols and security)
- Are you concerned about vandalism?
- Are you concerned with bears or cougars? Do you feel safe? Are you prepared?
- Could anything be done to make you feel safer?

8) How do you feel about the present number of Nanaimo's nature trails as a whole?
- Do we have too many? Do we need more?
- Where?
- What about expanding existing parks?
- Are there any other changes you would like to see at existing parks?

9) What sort of conflicts have you had with other trail users?
- Have you had any problems with the size of other groups, cyclists, horseback riders or
- dog owners?
- Do you have any suggestions to improve this?
- What do you think about the present park regulations?

10) How do you feel about horseback riders, cyclists and dogs on park trails?
- Can you think of anything that could be done that would accommodate these groups that
- would not effect your enjoyment of the park?
- What parks do you think these ideas might work at?
- Which parks do you think they would not be a good idea?
- What do you think of the idea of having parks that are user specific or have designated trails?

11) What do you think about the concept of a no leash zone?

- What parks do you think it might work at?
- Which parks do you think it would not be a good idea?

12) Any other comments or suggestions?

AREAS FOR FUTURE PARK DEVELOPMENT OR PRESERVATION

- (16) Westwood Ridges
- (15) more in the North End (Hammond Bay, Rutherford Area)
- (14) Colliery Dam protected from highway and expanded on other side (expanded/protected in general)
- (14) Mt. Benson (includes Benson Creek)
- (10) Linley Valley
- (5) Green Lake
- (5) BC Hydro ROW (include bike trail)
- (4) more bike paths/trails through the city of Nanaimo (on and off road)
- (4) military base
- (4) Duke Point (can include expanding Cable Bay)
- (2) expand waterfront and have rollerblade and cycling area along Swy Lana Lagoon (at least one lane)
- (2) Trail through Rutherford area along creek near the Quilted Duck
- (2) Brannen Lake, develop trail and expand beach
- (2) facilities are under utilized, have large parks (not mini parks or tot lots)
- (2) Buttertubs expansion
- (2) expand sea wall
- (2) Three Creeks
- (2) expand area by new highway (for bikes and rollerbladers too)
- (2) all of Neck Point
- (2) Buttertubs, no development near or around area (expand if possible)
- (2) trail from Buttertubs to Morrell/Westwood
- (2) Abyss trail
- (2) Beban, keep natural (no golf course)
- (2) waterfront area
- (2) expand Long Lake trail
- (2) expand Jack Point
- (2) High school and Jingle Pot area
- (2) First Lake trails
- more nature experience areas
- link more green strips together
- more parks in general
- no garbage dump in site 9
- 4 acres on 7th Ave and Park Ave next to Millstream with series of ponds - leave as is
- Superior Rd. to Store Rd., there is old growth forest area
- any area with steeper terrain
- trail around Long Lake
- Hammond Bay Beach expanded, along Blue Back Beach people are cutting trees right down to the water
- clothing optional beaches
- more boat ramps along the coast
- Beban, paved track, do not develop-leave for dogs and put in a few benches and garbage cans
- Beban Park, make it safer
- Beban, water grass more
- Harewood Parks
- Westwood District
- no golf courses, herbicides on grass hurt the environment

- Dumont Rd. and Vipar Rd., there is an old logging road
- more in Cedar
- Jingle Pot Rd., Shady Mile, where the pumpkins are during Halloween
- Bowen Park
- all lakes
- McKay
- anywhere for walking
- playground near Buttertubs
- Buttertubs, fenced in area should be preserved
- expand Millstone
- McGreggor Marsh
- Lantzville, near Phantom Rd.
- dirt pile by Hammond Bay and Uplands
- Westwood, playground
- trail around Brannen Lake and playground
- geese at Westwood Lake
- BC Ferries, park and camping
- Capiyates Park
- Pioneer Park, trail through
- Caledonia, pollen from weeds is bad, make into a terrace garden project
- more stuff for kids at Long Lake
- Pipers playground and washrooms
- culvert to resource area (Nanaimo Lakes Rd.), pathway
- lot on Waikensia, by school
- 4th St., Hillside and Lanbert
- create book on Nanaimo's parks—provide information on each park
- tennis courts in the north end
- Lost Lake Rd. trails
- Long Lake, the dock, is it public or belong to the rowing club? They were rude and kicked us off. It should be for the public, it is a the public park.
- Millstream caves, behind new overpass, should be cleaned up
- more boating areas
- more advertising along roadways about parks
- Pleasant Valley Area
- Dumont Rd.
- Vertie (caldasac) & jingle pot, marsh area
- rollerblade park
- behind hospital, new Rd. from Duffrin ridge with arbutus trees
- Divers, needs bathrooms
- Nothinham way, behind
- dog only parks

SUGGESTED IMPROVEMENTS FOR INDIVIDUAL PARKS

In each park respondents were asked what they would like to see added or taken out of the park The following includes the individual responses for each park. The number in front of each suggestion represents the number of patrons giving this as a suggestion. Please note that patrons were permitted to make multiple suggestions.

Morrell Nature Sanctuary

- (2) the "you are here" signs do not state where "here" is
- (2) more garbage cans
- more nature activities for kids available in after work hours
- flush toilets
- water fountain or tap
- "look out" near the top of the hill
- more look outs
- more signage arrows
- more educational things for kids generally
- feces station
- camping

Westwood Lake Park

- (5) build a playground
- (4) picnic area, tables
- (4) more garage cans
- (3) remove snags from lake
- (3) more water taps
- (2) more washrooms are needed
- (2) more benches
- (2) telephone
- (2) lighted parking lot
- improve boat area, too shallow
- dock for boats
- Westwood Ridges sign
- expand beach out to the change rooms

Buttertubs Marsh

- (9) need more garbage cans
- (8) need feces stations
- (4) need picnic table
- (2) need to build a playground
- another view station, east-by trailhead
- need washrooms
- need more benches
- need a boardwalk to middle of pond

Colliery Dam Park

- (8) need a playground
- (6) feces station
- (4) garbage cans
- (2) picnic tables
- lights for washrooms
- washroom at upper dam

- horse pits
- place for dogs, fenced, fire hydrants et. to urinate on
- lights in parking lot
- raft in second dam
- more trails
- educational signage

Diver Lake Park

- (8) need washrooms
- (4) improve, expand playground
- (3) need feces station
- benches
- sign, dogs on a leash
- another fish dock
- picnic tables
- skateboard area, light up at night
- water fountain
- no leash zone
- benches on BMX track
- basketball hoops in tennis courts

Pipers Lagoon Park

- (4) make port-a-potties nicer, maybe make them out of cedar?
- (3) picnic tables
- (3) more garbage cans maybe at the end of trail
- (2) playground
- (2) BBQ pits
- sign, caution for cliffs
- flush toilets
- steps over rock to connect other section of trailway

INDIVIDUAL PARK CONCERNS AND SUGGESTIONS

In each park at the end of the survey respondents were asked if they had any other suggestions or concerns. The following includes the individual responses for each park. The number in front of each suggestion represents the number of patrons giving this as a suggestion. Please note that patrons were permitted to make multiple suggestions.

Morrell Nature Sanctuary

- (2) leave park alone, keep it as is
- (2) pave or oil parking area
- (2) need dog feces station
- dogs killing rabbits in Morrell
- bus people from the old folks home out here for hikes
- advertise more
- woods room should have longer hours
- need more garbage cans
- playground for kids
- do not over regulate
- safety, security

Westwood Lake Park

- (6) too many roots, need wood chips
- (4) in beginning of winter season, trail gets mushy
- (4) feces station
- (2) geese
- (2) more trails
- more trees in field area
- get rid of loud, drinking partiers
- get rid of loud music
- no leash time periods for season (mornings and evenings)
- trailhead might not be suitable for kids, too hard to read
- large rock gets slippery, there should be a railing or stairs
- make inmates fix trail
- clean beach more frequently and thoroughly
- those that live in the area should be able to walk after dusk and not worry about fines
- dog off leash, why get ticket when dog swimming at 6:00 am
- improve area along beach and swimming area
- security should go around lake on nice days
- improve map, trailhead
- should be in miles and km's
- clean trail of litter

Buttertubs Marsh

- (5) do not shake eggs to control population
- (5) get rid of fence
- (3) no more development in the area
- (2) make path wider
- (2) less access points
- thin out milfoil
- clean outlets more often or it will flood
- clear out bull rushes
- obtain ROW through marsh

- make feeding seed (not bread) sign more obvious
- water level is lowering, are they draining it?
- water level too high, beavers have plugged it
- clear out purple loose strife plant
- noticeable decrease in wildlife
- people drinking
- fix tower
- take out marsh
- mulch more of the trail

Colliery Dam Park

- (4) need more security
- (2) concession
- (2) grass needs watering
- (2) trim trees in parking lot - make it more open
- (2) more bylaw or cops
- (2) do a study on the run off etc., caused by highway
- (2) some sections of trail logs are falling away
- (2) encourage use by children, lifeguards
- (2) to much use for such a small park
- sign, warning you not to leave valuables in the car
- sign, watch for pedestrians
- more clearing in the parking lot
- make trail longer, attach to something
- clear bush to bridge
- build trail to water fall, by water board
- no leash zone for certain hours, whole park
- surface area is always muddy or dusty
- no leash zone on left side, up by other Rd.
- restock lake more often
- gates do not shut at 11 PM
- remove snags
- faster clean up after storm, trees on path
- clean up beach
- general maintenance, 2nd dam starting to go, have parks guy live there again
- less geese
- fix up path through gully
- more access to lake for fishing
- remove cement blocks
- while painted rocks for night walking
- amphitheater - perfect natural design is already there
- garbage can by water board is gross

Diver Lake Park

- (3) clean up after ducks
- (2) develop trail around lake, muddy
- (2) re do map of fit circuit
- (2) clean up milfoil
- (2) fix up beach so its clean and its fit for swimming
- houses by the lake using herbicides
- fix up jogging circuit
- take tennis nets out in winter, to preserve
- rocks and roots exposed

- regulate dogs and their feces more
- parks guys pulled tires out of pond, why did they not remove them before kids threw them back in
- more secure garbage cans
- install boardwalks in mucky sections
- light up area at night
- less clearing of the bushes
- purple loose strife
- use wood chip rather than gravel
- oil in upper pond, is it from co-op
- fitness circuit has too many roots

Pipers Lagoon Park

- (4) create a no leash zone, maybe 8 to 10 PM, maybe only on other side of rock bluff
- (2) pave entrance area, but figure out how to control bikes
- (2) too many people, major increase in the amount of use in last 8 years
- trail too dusty, use more gravel or chips
- lifeguard in summer
- steps are breaking away in parking lot tree area - repair
- build more stairs to beach
- enforce dog owners to pick up feces
- more patrols of entire park, especially night
- bark mulch along the trails
- where is the dog catcher, was only here a couple of times this summer
- educational information on region should be provided
- park sign is out of date
- cliff caution sign is needed
- safety, worried about being mugged

COMPLAINTS REGARDING OTHER TRAIL USERS

In each park respondents were asked what conflicts they had had in this park with other tail users. The following includes the individual responses for each park. The number in front of each suggestion represents the number of patrons giving this as a suggestion. Please note that patrons were permitted to make multiple suggestions.

Morrell Nature Sanctuary
Approximately 20.93% of Morrell park users claimed to have had other trail users affect their enjoyment but few could remember how or did not want to specify. The five individuals who did expand on this question gave the following examples:

- (2) some dog owners or dogs - out of control, unruly
- (2) groups that are too large
- smokers

Westwood Lake Park
Approximately 34.69% of Westwood park users have had other trail users affect their enjoyment. When respondents were asked to describe how, 22 participants provided a variety of personal examples:

- (4) horses
- (3) cyclists
- (2) aggressive dogs on leash
- (2) old grumpy people telling you what to do
- partiers - drinking and being loud and obnoxious
- guy following me around
- dogs out of control
- large groups of kids (daycare), do not move aside
- dog feces
- motor bikes
- need more noise control
- lots of pot smokers
- intimidating youth
- creepy guys

Buttertubs Marsh
Of the 11.11% of Buttertubs Marsh users who have had other trail users affect their enjoyment seven respondents gave more descriptive examples:

- (2) cyclists
- drug dealers on Sun., Mon., and Tue. in the afternoons
- kids throwing rocks
- dogs off leash, out of control
- dogs on leash, out of control
- drunks

Colliery Dam Park
Approximately 52% of Colliery Dam Park users have had other trail users affect their enjoyment. This park had the largest number of complaints:

- (5) hookers
- (5) cyclists, rude, or too fast, groups too large
- (4) flasher
- (3) unruly kids/teens
- (3) drunks at night, people drinking

- (3) loose dogs or their owners
- (3) drugs in park, used needles too
- (2) dog feces on trails
- (2) vandalism
- vehicle-B&E
- tattooed survey types with Rottweilers
- partiers in the park making noise and drinking
- teenagers, bum cigarettes
- weirdo's
- people that complain about the dog
- people having sex
- teens, swearing
- kids, stole shoes while swimming
- music too loud
- kids harassing wildlife

Diver Lake Park

Fifteen percent of Diver Lake users have had other trail users effect their enjoyment of the park and five individuals produced specific examples:

- (2) unresponsible dog owners, unleashed and out of control
- creepy guys
- kids out of control
- people drinking after dark

Pipers Lagoon Park

Approximately 11.90% of Piper's Lagoon users have had their enjoyment of the park affected by other users. Four specific examples were given and three of them are dealing with dogs:

- dogs off leash
- too many kite flyers
- grumpy people that whine about keeping dogs on a leash
- dogs on beach